NOTE

ONLY THE FOLLOWING PAGES OF THIS

PUBLICATION HAVE BEEN FILMED

Cover 1, p. 3, 26, 28, 35,

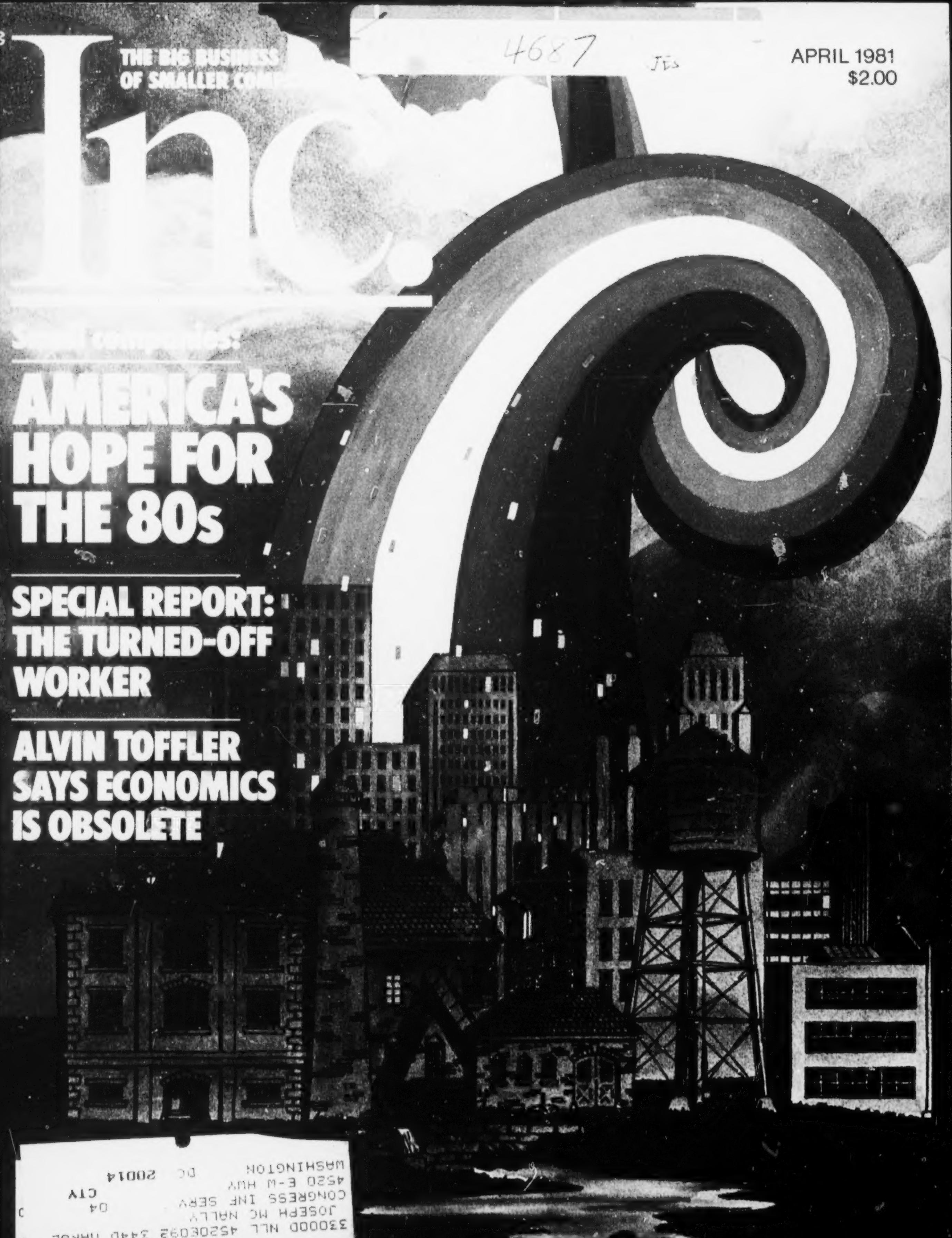
37-38, 40, 42, 44.

Inc.
THE BIG BUSINESS
OF SMALLER COM

4687

JES

APRIL 1981
$2.00



Small companies:

AMERICA'S HOPE FOR THE 80s

SPECIAL REPORT: THE TURNED-OFF WORKER

ALVIN TOFFLER SAYS ECONOMICS IS OBSOLETE

33000D NLL 4520E092 344D MAR82
JOSEPH MC NALLY 04 C
CONGRESS INF SERV CTY
4520 E-W HWY
WASHINGTON DC 20014

BEST AVAILABLE COPY

APRIL 1981
VOL.3,NO.4

CONTENTS

DEPARTMENTS

From the editors 7

Letters 10
Earl Graves profile tells positive story; More advice on handling a board of directors; Small company advisers tilting at windmills?; Charity isn't so sweet; The ABCs of Z factor.

Speaking out 16
Rollovers: Not even the tax man loses. So what's taking so long?

Economic issues 18
The inflation fight: Will anyone be around to celebrate the victory?

News & trends 22
Wall Street takes its chances on gambling man; U.S. trade policy a mess, First Daughter protests; Small business benefits from change in economy; For technology, oil, gas, it was a very good year.

At a glance 30

Time out 113
Silks and saddles.

Taxes 118
Reagan presidency: tax changes, yes; a revolution, no.

Legal briefs 120
Legislative intent overrules letter of the law; Sexist workers' comp death benefits barred.

Ideas you can use 122
Put performance into appraisals; Take guesswork out of salary setting; Spell out firm's overtime policy; How to spot the successful people; Insure against overseas losses; Keep posted on trade events; Should you accept damaged freight?

Books 128
Theory Z: making American business more productive.

Personal finance 136
You can retire and have life insurance that keeps working.

Cover illustration
Jeremy Ross

Small companies: America's hope for the '80s
At a time of crisis and disillusionment, the entrepreneur leads the way to economic revival. 34

Shopsmith pounces on its problems
John Folkerth believes the best way to meet the challenge of fast growth is to attack vigorously. 46

Inflation: Who's kidding whom?
All too often, the Consumer Price Index is regarded as a true measure of inflation. But it tells only part of the story. 54

My managers are buying me out
Faced with a classic problem of management succession, this owner found a way to turn his company over to a team of loyal managers. 61

Special report: the turned-off worker
Why John and Mary won't work: The work ethic is alive, but old motivators are failing. 70

When workers and companies both win 81

Where are your receivables right now?
Between invoicing and collecting, valuable cash may be loitering around unproductively. 86

Economics is obsolete
Alvin Toffler, the author of *Future Shock* and *The Third Wave*, believes that all our basic economic concepts are outmoded. 91

Making money isn't the religion at Hurco
Instead, the company was founded on old-fashioned spiritual values. 104

COPYRIGHT © 1981 BY INC. PUBLISHING COMPANY All rights reserved. INC. is published monthly by Inc. Publishing Company. ISSN 0162-8968. Editorial and executive offices at 38 Commercial Wharf, Boston, MA 02110. Telephone (617) 227-4700. Bernard A. Goldhirsh, President; John W. Carlson, Vice President; Norman Raben, Vice President; Sean Withrow, Vice President. ☐ **SUBSCRIPTION:** One-year subscription rate for U.S. and possessions, $18.00; Canada, $30.00. All other countries, one-year subscription rate $45.00, cash orders only, payable in U.S. currency. Forms 3579 and all subscription correspondence should be addressed to INC. Magazine, P.O. Box 2538, Boulder, CO 80322. Please allow at least six weeks for change of address. Include your old address as well as new, and enclose if possible an address label from a recent issue. ☐ Controlled circulation postage paid at Lancaster, Pa. and Holliston, Mass. Material in this publication may not be stored or reproduced in any form without permission. Requests for permission should be directed to Rights and Permissions Editor, INC., 38 Commercial Wharf, Boston, MA 02110.

were generally "prudent," the department would not look into the individual venture-capitalist investments.

After pension funds, major corporations were the largest single group of contributors, investing $118 million in 1980, up significantly from $28 million in 1979. Foreign investors increased their stake from $26 million in 1979 to $53 million in 1980.

SECURITIES

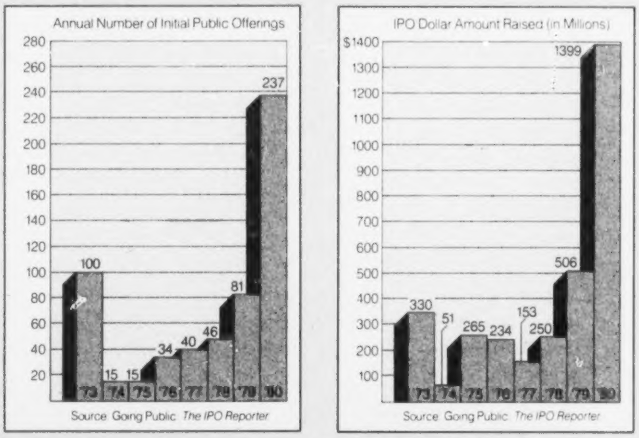
For technology, oil, gas, it was a very good year

The tremendous rush of technology and oil and gas companies to go public late last year continued to fuel the stock market into 1981. In December alone, almost $400 million—more than was raised than in any year between 1973 and 1978—was invested in new stocks. And, as 1981 dawned, another 150 new stocks were in the Securities and Exchange Commission pipeline waiting to go public.

All in all, 237 companies made initial public offerings last year, raising nearly $1.4 billion in new capital, but on the basis of the backlog, underwriters were already predicting another good year. "The number of issues might be even larger if the market holds up," commented Sanford Robertson, partner of Robertson, Colman, Stephens & Woodman, a San Francisco investment banking firm that specializes in taking technology companies public. "I don't think the market environment is any better," said Robertson. "There's just a lot of catching up going on."

Oil and gas companies outnumbered high technology ventures going public last year; the two categories constituted

AN ASTONISHING SPURT IN INITIAL PUBLIC OFFERINGS



Source: Going Public: *The IPO Reporter*

Source: Going Public: *The IPO Reporter*

Charts by Geoffrey Hodgekinson

SMALLER COMPANY INITIAL PUBLIC OFFERINGS: JANUARY 1981

Company	Business	Offering Size ($000)	Price $	P/E	12-month sales ($000)	Underwriter
Bellwether Exploration Co.	oil & gas exploration	5,000	5.00	62	1,477	Hanifen, Imhoff Inc.
Dallas Oil & Minerals Inc.	oil & gas exploration	3,500	.10	[a]	[a]	Fitzgerald, DeArman & Roberts Inc.
Diagnostic Retrieval Systems Inc.	computer systems	4,125	10.00	24	10,064	Ladenburg, Thalmann & Co. Inc.
Engineering Measurements Co.	measurement systems	2,475	3.00	17	5,201	Hanifen, Imhoff Inc.
Fidelity Medical Services Inc.	cardiac testing	5,400	3.00[b]	300	491	Patten Securities Corp.
Information Retrieval Systems Corp.	information storage systems	3,600	2.00	[c]	3,714	M. W. Wien & Co.
Intelligent Systems Corp.	color graphic terminals	12,000	16.00	67	14,492	L. F. Rothschild, Unterberg, Towbin/Robinson-Humphrey Co. Inc./Hambrecht & Quist
Inter-Tel Inc.	telephone systems	8,250	12.50	42	10,648	Bache Halsey Stuart Shields Inc./E. F. Hutton & Co. Inc.
ISSC Industrial Solid State Controls Inc.	programmable controls	10,325	14.75	11	33,207	Bache Halsey Stuart Shields Inc.
Lyric Energy Inc.	oil & gas exploration	2,000	.10	[a]	[a]	OTC Net Inc.
Machine Technology Inc.	semiconductor device manufacturing systems	2,450	3.50	32	4,151	Rooney, Pace Inc.
Matrix Science Corp.	environmental electrical connectors	16,000	16.00	21	26,716	Shearson Loeb Rhoades Inc.
Nutri/System Inc.	diet clinics	16,150	19.00	14	23,204	L. F. Rothschild, Unterberg, Towbin

[a] No operating history
[b] Units consisting of two shares and one warrant
[c] Negative earnings
Data: *New Issues*, The Institute for Econometric Research Inc., 3471 N. Federal Highway, Ft. Lauderdale, FL 33306

BEST AVAILABLE COPY

the majority of initial offerings.

Another indication of how avid the market was for new issues was the number of start-ups, 131, which raised nearly $400 million. Just over $50 million of that was raised by two start-ups, People Express Airline and American Leisure, an Atlantic City casino company.

—Jonathan Williams

THE ECONOMY

It's a buyer's market for small companies

Owners who want to sell their small businesses will have to settle for less than they would have a few years ago, says business broker Henry M. Thornton, president of Baird Business Associates of Ft. Lauderdale, Fla. Because high interest rates have cut into the earnings of small firms, Thornton says, they are less desirable to buyers, who are themselves strapped by the high rates.

The poor business climate also means that there are more owners seeking to unload their companies, Thornton says. The result is a glut of sellers and a shortage of buyers.

For example, Thornton cites a company that had sales of over $6 million in 1980 and earnings of $950,000. If the firm had been paying interest at the 1979 level, he estimates, its earnings would have been $1.5 million. And if it had not had to borrow at all, its earnings would have hit $2.25 million. Smaller companies typically sell for about four times their net earnings, so the decline in profits makes a big difference.

The long term outlook is bleak, Thornton says. "Even if rates drop," he points out, "no one expects the drop to be permanent."

CAPITAL

The boss is (literally) banking on employees

When Lincoln Contractors Supply Co. of West Allis, Wis., needed a new computer, company president Alfred Knief went to the bank. But by the time the bank was ready to make the $70,000 loan, interest rates had climbed to 16%.

Knief knew he could do better.

"When you're trying to find ways to economize during a recession," Knief says, "you have to use some initiative." So he asked his employees to lend him the money.

When word went out that the company would pay 12% interest on employee loans to the business, 17 of the firm's 23 workers lent Lincoln anywhere from $1,000 to $20,000. Knief accepted the loans as three-day demand notes so that employees could withdraw their money on short notice with no penalty.

Dal Bayles

Alfred Knief: His employees beat the bank.

In all, the company raised $109,500—enough to pay for the computer, the software, and several smaller outstanding loans. "Now," Knief says, "I like to say that we only owe money to ourselves."

INNOVATION

Inventor invents a way to help other inventors

Inventors who walk into Nicholas Kondur's Denver office in search of help must feel reassured by the 30 silver-framed patents hanging on his wall. But for Kondur the patents were a source of frustration as well as pride. Most of the fruits of his inventions went to his employers, not to him.

"When you see your employer taking out a large number of patents on your work," Kondur says, "you wonder whether maybe your inventiveness is being used up." There must be a way, he figured, to help other inventors while helping yourself.

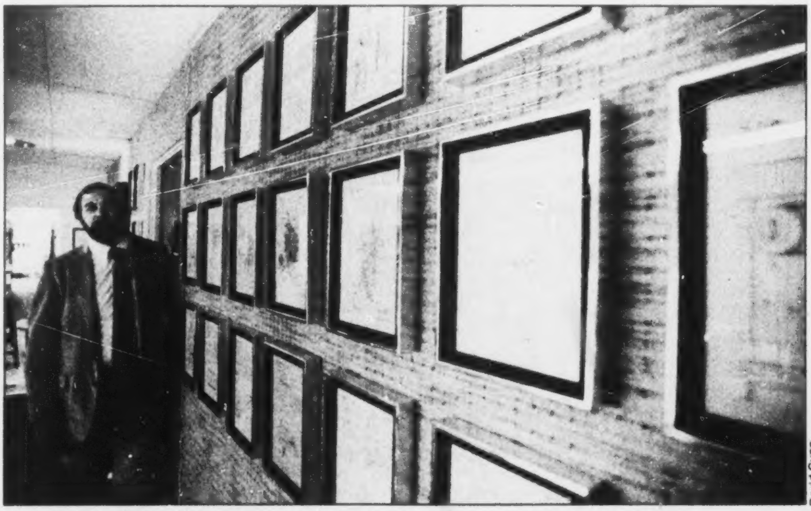
Kondur's frustration led to his latest "invention," a firm that obtains manufacturing or marketing rights to new inventions, in exchange for consulting, testing, or marketing services for the small companies where they were invented. In its third year, 1980, Kondur's International Technology Resources Inc. had revenues of $471,000, up 95% over the previous year. But those figures are deceptive because many of ITR's clients are start-up companies strapped for cash, so ITR often takes stock in return for its services. While much of the stock is restricted, and is traded on the volatile Denver "penny" market (see INC., May 1980, page 32), the paper gains on the value of the stock recently topped $2 million.

Kondur is no stranger to fast growth. When he was executive vice-president and later chairman of LRC Corp., a leading matrix printer manufacturer, the company's sales spurted so fast it ranked 58 on the 1979 INC. 100. It ranked even higher, 17, in profitability among the firms in the INC. 100. Kondur left LRC when he and the board fell out over business strategy.

Among the most promising ventures in ITR's portfolio of innovation, Kondur says, are a radioactive tracer drug for cancer detection, a portable inflatable solar energy heater for use by hunters or recreational vehicle owners, and a fast, one-step microfiche copier.

Kondur sees three or four inventions or business schemes a week. "I have a basic rapport with inventors," he says. "I love to hear them tell how they'll sell 30,000 units next year. In fact, some of them will. But it's difficult to tell which ones."

—Harrison L. Moore


David Cupp

Nicholas Kondur and his patents: He built his business on a rapport with inventors.

SMALL COMPANIES: AMERICA'S HOPE FOR THE 80s

At a time of crisis and disillusionment, the entrepreneur leads the way to economic revival.

Editor's note: Associate editor Lucien Rhodes came to work recently with a mysterious and lengthy letter he claims he found tucked into an economics text at the Boston Public Library. Despite the letter's dubious origins, we think its author arrived at an important conclusion. Rhodes checked out the letter's accuracy with the help of assistant editor Cathryn Jakobson.

Col. Elijah Dreadnaught
The Society for Surviving
the Coming Collapse
Atop the Redoubt
Jordan, Maine

Dear Colonel:

It's been two years now since that day in Washington Square when you gave your "Prisms of Fire" speech that blended Kondratyev Wave theory with astrology to foretell the coming economic collapse. "Why work?" I asked myself. "It's all over anyway." So I quit my job as a back office clerk with Smyth, Bigsby & Purnell, investment bankers, and joined the Society. I sold my car and gave you the money for my share of the dried food you're storing in the horse barn at the Redoubt. I even agreed to serve as one of your "border guards," patrolling the real world for some sign that the end was at hand. You know I've been vigilant, so I was hurt by your recent letter that accused me of "whistling in the dark." Can I help it if the only news I find seems good?

Unfortunately, you're likely to find my news today worse than ever. Although you've told me many times that entrepreneurship is dead, I have to report that entrepreneurs don't know it. In fact, it's beginning to look like their time has come. A renaissance, so to speak. I'm talking about the big picture now, boss; about the ascendancy of the American legend in a time of crisis; about a change in the social consensus from "What's good for General Motors is good for the country" to "What's good for small business is good for the country."

I'm sorry to have to tell you this, but the activities of this rowdy bunch of entrepreneurs are being seen as an antidote to the calamity we've been waiting for. President Reagan has already called them "heroes," and to give you an idea of how things are looking better for them, consider these facts: More money has been invested in venture capital limited partnerships than ever before; in 1980, the total investments by small business investment companies broke all previous records; the number of companies offering stock to the public for the first time in 1980 was the greatest in eight years; since the White House Conference on Small Business, nearly 20 states have passed special legislation or formed committees to encourage small business; and, in the closing months of 1980, the number of new business incorporations hit an all-time high. In a word, boss, we may very well be at a historic turning point that will make the Armageddon you've predicted look like a battle in a sandbox.

Let me give you my conclusions. Entrepreneurship has entered a renaissance on the strength of three important forces: the amount of money available to new and infant businesses; new directions in government policy; and changes in society's attitudes. From each of these viewpoints, it has become increasingly clear that entrepreneurship gives you more bang for your buck.

Money: Institutional money managers—the people who invest the really big money—have a tough time keeping the rates of return on their portfolios ahead of double digit inflation. But venture capital offers significantly higher returns than traditional outlets such as the stock market. While common stocks have historically returned between 7% and 9% annually through appreciation and dividends, most venture capitalists expect an annual return of at least 20% to 25%. So, like water finding its own level, money is gushing into the venture capital pool.

Government policy: Evidence is mounting that small companies are more innovative and create more jobs per dollar of investment than their larger counterparts. To governments at all levels troubled by declining growth in productivity, rising unemployment, and squeezed tax bases, promoting and encouraging small business looks like a good bet. Of course, the bureaucracy does move slowly—but many people feel it's taken some important first steps toward small business.

Society's attitudes: Changes in the intellectual, moral, and cultural climate of an era—what you call the zeitgeist, boss—are always tough to pin down. As you know, Americans have always been a fickle lot. But let me give you Jack Neises, general partner of Charles River Partnership, a venture capital limited partnership. He hears from the zeitgeist daily. "There's been a societal change that has rekindled the entre-

Jeremy Ross

preneurial drive. People no longer like the idea of being loyal corporate soldiers, then retiring with a gold watch. Many of them are saying, 'Why not take the chance? I'll never get another one.' I don't think this was true in the 1960s when inflation wasn't so bad. Then people with a vested interest in a pension plan could point to something. But inflation has changed that type of thinking. Now they have to ask, 'What's it going to be worth when I retire anyhow?' "

When you put these things together, boss, it's a pretty heady brew that gives me crazy thoughts about real economic growth, Eisenhower, and driving around in a '57 Chevy with the top down. Oh sure, there are still problems, but I ask you: Where's the big economic collapse and rioting in the street that you predicted in your book, *Grab What You Can and Run*? How long do I have to wait, anyway?

Just in case you're thinking I made this whole thing up, let me tell you how I sleuthed it out. One afternoon I was studying your monograph, *Down, Down, Down: The Road to Ruin*, in which you examine how economics got to be called a science—a hoax you compared with other notable hoaxes, such as the Tulip Mania, the South Sea Bubble, and the Salad Oil Swindle. Then I got that old tingling sensation in the nape of my neck. You know, boss, it's that tingling I always get when something big is about to happen.

I remembered a Department of Labor study that said that after two decades of decline, the number of people who classify themselves as self-employed rose 25% between 1972 and 1979, and that the number of people who classify themselves self-employed but have incorporated their businesses increased by 41% between 1976 and 1979. The study concluded that the baby boom generation "placed a higher premium on being able to work for themselves than did prior generations." And I remembered a baby boomer pal of mine, misguided though he was, who turned his back on the big money two years ago to start a small publishing company, saying, "If I don't do it now, I never will. Besides, working for somebody else is a pain in the butt." Boss, I tell you, it was cosmic. I saw legions of entrepreneurs asking relatives for money, and the smiling face of prosperity rising in the background. "Something's going on here," I said to myself.

I decided to get a second opinion. I went to see Royal Little in Providence. If anybody has a finger on the economic pulse, it has to be Little, who is 85 years old. He has some 60 years of continuous business experience. In 1923, he founded the Special Yarns Corp., later called Textron. In the '50s, he won for himself the intriguing title, "Father of Conglomerates."

Little didn't waste any time. He hit me right where I lived. "Now's the time to be starting your own business," he said.

"Why do you say that?" I stammered.

"Look at this," he said. "There's more money available now than I've ever seen before." Remember, a "before" from Little covers a lot of ground. Here are the numbers he slid across the table:

Capital committed to private venture capital firms (mil.)

Source	1978	1979	1980
Pension funds	$ 32	$ 53	$190
Major corporations	22	28	118
Individuals and families	70	39	112
Endowments and foundations	19	17	99
Insurance companies	35	7	85
Foreign investors	38	26	53
Total	$216	$170	$657

Source: *Venture Capital Journal*

This is actually a snapshot of money gushing into the venture capital pool. Can't you see the sluice gates open? Notice that between 1979 and 1980 there are big jumps in every category. Not only is something going on here, but smart money has already spotted it. Entrepreneurship is hot.

Two days later, I was sitting in Stanley Pratt's office trying to learn more about venture capitalists. Pratt collects figures like capital commitments and publishes them in his trade journal, *Venture Capital Journal*. "In 1980," he said, "the amount of new money flowing into venture capital reached the highest point in the industry's history." Here's the graph he showed me to illustrate his point:

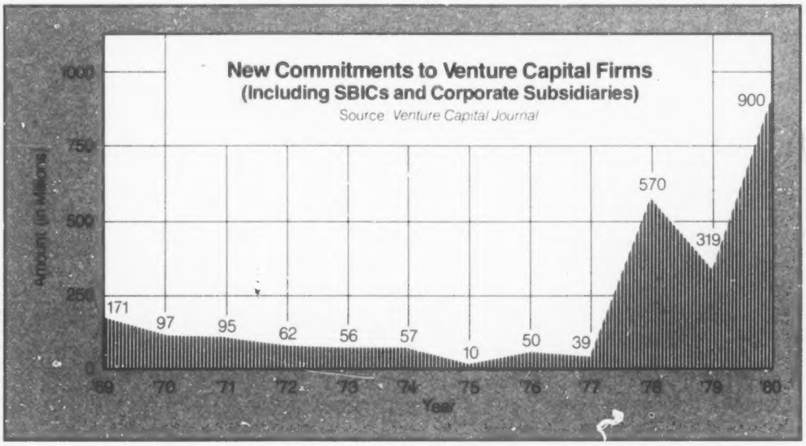


chart by Geoffrey Hodgekinson

These numbers are bigger than the ones you saw earlier because they include small business investment companies (SBICs) and corporate venture capital subsidiaries.

Even though the total amount of money invested in venture capital—currently estimated at $4.5 billion—is only a tiny part of the great pool of money consumed annually by small business, many observers feel it's one of the best indicators of the strength of entrepreneurship. It has been called a "pilot light for the economy." And due to the vagaries of available statistics, it is one of the few areas that can be quantified with a reasonable degree of accuracy. Venture capital has the added virtue of being a direct connection between money and entrepreneurs. And Reagan himself said that entrepreneurs are the ones "who create new jobs, wealth, and opportunity."

I have to admit, the view from these heights is impressive. But equally interesting to me is the forbidding wasteland that had to be crossed to get here: the years between 1969 and 1978. This turbulent period is critical to understanding the resurgence of venture capital and the quickening rise of entrepreneurship. Moreover, the after-shocks from these years are shaping government policy today.

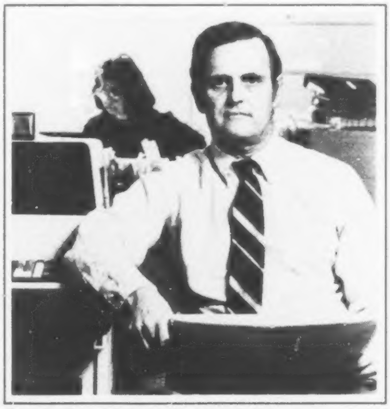
There was, of course, the 1973 oil embargo, the 1973–74 credit crunch, and the 1974–75 recession, but the real story lies elsewhere. In 1969, the capital gains tax rate was increased from 25% to 49% for individuals. That altered the economics of venture capital investing so radically that the industry nearly died. In 1975, new commitments of $10 million barely left breath on the mirror. Then in 1978, the capital gains tax was reduced to 28%, and new commitments were almost 15 times greater than the year before. "The change in the taxation on capital gains," Pratt says, "was the major cause of the resurgence of venture capital funds."

At the same time, entrepreneurs got a shot in the arm. "It changed the risk to reward ratio to favor entrepreneurs," venture capitalist Jack Neises will tell you, "and made it twice as profitable for potential entrepreneurs to leave big companies."

I hope you're beginning to see why I'm getting nervous about your prediction of the coming collapse. The sequence of events is pretty clear, isn't it? Reduced taxes bring out more venture capital money which brings out more entrepreneurs who then create innovations and more jobs and ultimately real economic growth. We both know more tax cuts are on the way, so I ask you, what will become of our Society, boss?

But like you've always said, "What you see in the numbers, you've got to see in the trenches—or else throw out the numbers." So that's where I went next and I have to admit, the trenches never looked better. More money, more deals, and deals of higher quality keep the energy level very high—kind of a financial Woodstock.

Several of the venture capitalists I spoke with had either recently funded new partnerships or were in the process of doing so. The line of institutional investors waiting to get in goes around the block. In many cases, it appears that the only constraint on the amount of money that a given venture capitalist can raise is the size of the partnership's investment staff. And while many agree that the cut in the capital gains rate has fueled investor interest, they also point out several other reasons. Morton Collins, general partner of DSV Associates in Princeton, N.J., thinks that institutional investors have more confidence in venture capital partnerships. "The last decade has proved venture capital investing," he says. "It's inherently risky, but the results during this time period have shown certain investors—like pension funds and endowment funds—that the risk-reward ratio is acceptable."


Stanley Pratt: A boost from tax laws

There's a saying in venture capital that may help you understand what Collins means: "Lemons ripen first; plums take longer." Remember that back in 1969 and 1970 new venture capital commitments fell off nearly 50%. You already know one of the reasons why this happened, but let me give you another one: 1969 was a good year for lemons.

Between 1963 and 1969, venture capital investing was shedding its image as the plaything of very rich families. As part of this process, institutional investors took their first tentative stab at newly formed partnerships. The stock market was booming and investment attitudes in general were expansive. But venture capital was still unfamiliar territory and early investors were edgy. One fact that wasn't very well understood was that most venture capital portfolios have a gestation period of between 7 and 10 years. In other words, that's usually how long it takes before you can start counting plums.

In 1969, some of the lemons began showing up, and many institutional investors took it as a sign that venture capital simply was too rich for their blood. They took their money and went elsewhere. On top of this came the stock market break in the early '70s that effectively buried the cult of high-risk, high-performance investing that typified the "go-go" years of portfolio management in the '60s. But 10 years later, after credit crunches and recessions, many of the partnerships formed in the late '60s were still around and, sure enough, there were some plums underneath the lemons. The significance of the achievement didn't go unnoticed by institutional investors looking on from the sidelines. Janet A. Hickey, manager of investment research and head of venture capital commitment at the General Electric Pension Trust, summarizes the feelings of most institutional investors: "You've got teams of people now who are cycle-tested, who have managed venture capital during the past decade, which were turbulent times for financial assets. Confidence in venture capital partnerships has grown."

In addition to greater confidence, venture capitalists point out that institutional investors look to partnerships for so-called second plays. A pension fund, for example, by virtue of its investment in a partnership, gets a chance to study new, emerging technologies. Later, when individual companies go public, the pension fund is already well prepared to take positions in the common stock. Similarly, corporate investors use this "window" on a new technology to spot potential acquisition candidates.

Still, the most frequently mentioned reason for the boom is that investing in venture capital offers superior rates of return over the long term. Here's Peter A. Brooke, managing partner of Boston-based T.A. Associates: "I raised $60 million last June and it might just as well have been $100 million. Money managers have seen one thing: that they can do better in venture capital than they can in stocks. And they want to get in on the action."

That's the supply side of the picture, boss. Discouraging, isn't it? Unfortunately, the demand for funds is equally brisk. Every one of the venture capitalists I spoke with said that more entrepreneurs were knocking on their doors than ever before.

"It's definitely more active than in the past," said Dan Gregory of Greylock Management Corp. in Boston. "In 1980, for example, we made about 10 investments, but we seriously considered another 100 and glanced at another 200." Thomas J. Perkins, senior partner at Kleiner, Perkins, Caufield & Byers in San Francisco, said, "We're seeing 5 to 10 times as many deals now than we did at the low point in 1974."

But it's not only the number of deals professionals find so encouraging, it's also the quality behind them. "More management talent is accompanying the ideas than ever before," said Timothy M. Pennington, general partner of Brentwood Associates in Los Angeles. "These entrepreneurs have more experience behind them, their ideas are more carefully thought out, and the business plans they submit are much more sophisticated than in the past." Although most partnerships are concentrating on backing high technology ventures, there is still a lot of opportunity for companies not involved in high tech industries."

Boss, if this were just a case of a few more entrepreneurs knocking on the doors of the American Dream, even a few hundred more, I swear I'd be blissfully unconcerned. I would take it to be one of the last gasps of a failing economy that you predicted in your pamphlet, *Who's Laughing Now?* Unfortunately, the rise of entrepreneurship has been gaining momentum for a lot longer than I ever imagined. And Milton Stewart confirmed it for me. Stewart was chief counsel for advocacy at the U.S. Small Business Administration until he became editor of INC. magazine.

"The dominant facts in the 1950s," Stewart said, "were the memories of the Depression and World War II. These two things focused society's attention on the seeming desirability, even inevitability, of bigness in government and in business. The Depression and Keynesian economics encouraged bigness in government, and the industrial resources required to win the war emphasized big business.

"But as a people, we're raised to resist concentrated power of any sort. It's something we take in with our mother's milk. So there we were, expecting benefits from bigness, but not liking it either.

"Most people were ambivalent until the 1960s when the ambivalence turned aggressively negative and antibigness on issues like the environment and Vietnam. More and more, students began to complain that the universities were only preparing them for big corporations. They began to press faculties for courses on venture capital and entrepreneurship. Soon after, government attitudes began to change as the economy began to stumble on inflation, on declining rates of productivity growth, on fewer patents and innovations, on domestic market shares lost to foreign competitors. The most visible example of this change in government attitude was its holding the White House Conference on Small Business. All these things are interrelated and together they have, over the last 10 to 15 years, moved society toward entrepreneurship. It's a powerful tide, and it's still rising."

"Entrepreneurship is on the rise, and it's a direct consequence of the 1960s."

I suspect President Reagan has been hearing the same story. At least Candidate Reagan was reading from the same book. In a position paper sent to the National Small Business Association prior to the election, Reagan opened with the following sentence: "The success of our economy is critically dependent upon the preservation of real opportunity for small business." And later he talked about reducing income taxes "to encourage entrepreneurship and investment."

Still, some people point out that there are no guarantees that Candidate Reagan and President Reagan will turn out to be one and the same person. Campaign promises, they say, are just that: promises. You have to keep your eye on what's actually being done. And to some observers of the small business environment, recent developments are a little distressing. For example, Herbert Liebenson, president of the NSB, is already worried about promises getting lost in the new policy shuffle. He calls the report from the President's Small Business Issues Task Force, generally regarded as the first indication of small business policy under the new Administration, a "conflicting document that poses more questions than it answers." On the one hand, he says, it offers some specific recommendations that are strongly pro–small business such as the rollover tax deferral on capital gains reinvested in small business. On the other hand, it instructs the Administration not to "deliberately favor one form of business over another."

Liebenson then quickly ticks off a list of issues, all of which, he says, put small business at a disadvantage relative to big business. "Let's face it," he says, "the only way you can compete equally is if you start off equally. My job is to get a fair share for my constituency, and it's just too soon to tell what the Administration is going to do."

While Robert B. Reich, director of policy planning at the Federal Trade Commission, agrees that entrepreneurship and small business is enjoying a renaissance, he prefers to call it a "minirenaissance" and thinks that it will be short-lived. "All the signs point to the Reagan Administration going back into the big-business-is-the-best type of policy and attitude," he says.

Reich believes that President Reagan's actions, such as eliminating the Economic Development Agency, accelerating depreciation rates, and increasing defense expenditures, indicate that big business will once again have more political clout than small business. And it is precisely this relative political power, he says, that has determined the fate of small and big business at any given moment throughout history. As Reich sees it, the fundamental tension between the two go all the way back to Thomas Jefferson and Alexander Hamilton.

Jefferson wanted to preserve a decentralized market economy, but Hamilton preferred the economies of scale attendant to big business and big banking. Jefferson didn't want to sacrifice the kind of innovation and political decentralization that came from small enterprises for the growth and large scale investment that Hamilton promised. The fight was on, but the first title bout didn't occur until the 1880s as midwestern agrarian discontent began to incite small business and the middle class against the big trusts. The result was the Sherman Antitrust Act of 1890—a TKO scored by small business.

Small business continued in the ascendancy until World War I when the war effort pushed big business into the political limelight and kept it there through the '20s. After the Crash and Depression, neither big nor small business had an advantage. In fact, Franklin D. Roosevelt tried to mollify both with the National Industrial Recovery Act, which was soon declared unconstitutional.

At the same time, small business watched the spread of chain stores, particularly in food retailing, with growing apprehension. Apprehension turned to outright fear, and a united small business community began to scream for protection. The result was the Robinson-Patman Act—another TKO for small business that signaled balmy days until the onset of World War II. Then, small business's World War I experience was repeated all over again.

The primacy of big business continued through the '50s. In fact, it wasn't until the early '60s that small business began to attract government concern over small business set-asides, antitrust, and military procurement. Even though the Nixon Administration wasn't a small business champion, there was some concern for small business throughout the '60s right up to the present day. "But now," Reich says, concluding his analysis, "I see the tide turning to big business again with the Reagan Administration."

Boss, for a while, my mood brightened noticeably, but then I remembered that several people, Milton Stewart for one, sharply disagree with Reich's assessment of the relative political power of small business and the entrepreneur. Not only will Reagan be goaded forward by his own statements on small business, they say, he will also be moved by the not inconsiderable momentum let loose by the White House Conference on Small Business. And underlying it all is the power of a new social consensus that wants the entrepreneur to succeed. What's more, the White House Conference has already produced some very real gains that can't be ignored.

The 96th Congress, for example, took five recommendations from the Conference and made them law: the Omnibus Small Business Act, the Regulatory Flexibility Act, the Equal Access to Justice Act, the Paperwork Reduction Act, and the Patent Policy Reform Act. The Conference also inspired a sense of aggressive solidarity among small business people that promises to keep up the pressure on government lawmakers.

"I've been fighting guerilla warfare for small business ever since I started my own on a kitchen table 11 years ago," says Robert E. Carr, chairman of the National Unity Council. "They say there are 14 million of us in small business. Now that's a lot of votes. We're going to make the 1980s the decade of small business and the entrepreneur."

Jack Neises A new risk-reward ratio

Carr also points out that the frontal assault of small business is being further strengthened by high caliber support from an often overlooked source—state governments. Even government officials concede that state governments are setting a faster pace than the federal government. "There may be more going on at the state level than at the federal level," says John Satagaj, special projects counsel in the Office for Advocacy at the Small Business Administration. "The activity there reflects small business's new ability to get organized at the grass roots level. There can be more of a continuous personal relationship between entrepreneurs and their state governments than between entrepreneurs and the federal government. After all, they're neighbors."

Satagaj says that since the White House Conference, at least 10 governors have established advisory councils on small business and almost a dozen state legislatures have created committees on small business. In addition, a whole flock of bills are pending in various state legislatures that would give small business a break in several areas including capital formation and retention, regulation, and taxation.

Brother, did I have a headache after I heard this news. And it got progressively worse during the next few days as I digested equally sanguine views served up by academics and entrepreneurs alike. Although each view was slightly different, I began to see a single story line emerging. After World War II, the entrepreneur was inadvertently bumped into a ditch as big business and big government sped by. The entrepreneur lay in that ditch for years. Passersby weren't particularly interested in pulling him out because the idea he stood for—namely a vigorous self-assertion that enabled him to abandon security and take on frightening risks—simply wasn't fashionable. It was also unnecessary because, at the time, big business appeared eminently qualified to guide you to the good life. And big government was on hand to ensure that you could enjoy that good life tranquilly.

Nor could the entrepreneur pull himself out of the ditch, because he had no political influence or confraternity to aid him. Some rescue attempts were made over the years that followed but, judging from the results, they were only halfhearted. Finally, in the mid-'60s, the entrepreneur, or more precisely, the entrepreneurial idea, was released. Students everywhere were celebrating the right of the individual to fashion his own highly personal imprint on life, unfettered by what they perceived to be the purely self-serving and largely misguided motives of big business and big government. The entrepreneurial businessperson was simply swept up in the tide.

"Entrepreneurship is on the rise," says Harold C. Livesay, author of *American Made*, a study of several famous entrepreneurs. "And it's a direct consequence of the 1960s. Until then, big corporations looked like the ultimate answer to a lot of society's problems, but that changed as the self-reflection of the '60s generation began to identify goals that were not being met by giant organizations. What looked like omniscience on the part of big business often proved to be very wide of the mark." Even so, many of the '60s generation who are now becoming today's entrepreneurs got their training and a significant part of their savings by working for large corporations. And while they were accumulating the experience they needed to fulfill the promise of the '60s, another curious thing happened: These future entrepreneurs began to hear that they really mattered in the great economic scheme of things.

The National Science Foundation funded a study of major innovations introduced between 1953 and 1973 and found that small firms produced about 4 times as many innovations per research and development dollar as medium-sized firms and about 24 times as many as large firms.

In 1978, Dr. Edwin V. W. Zschau, chairman of the board of Systems Industries in Sunnyvale, Calif., appeared before the Senate Select Committee on Small Business urging the members to reduce the capital gains tax rate. Dr. Zschau presented a startling study done by the American Electronics Association that clearly demonstrated the importance of small, newly formed companies.

He argued that the tax rate should be reduced because it would encourage the flow of equity capital into new business, which would then have a multiplier effect on new jobs, tax revenues, and other categories. For example, he took 77 electronics companies that in 1976 had an average age of four years and showed that every $100 of equity capital invested in each of these companies generated $70 in export sales, $33 in R&D expenditures, $15 in federal corporate income taxes, $5 in state and local taxes, and $15 of federal personal income taxes through the jobs created by the initial investment. He also found that in 1976, companies less than five years old had an employment growth rate 115 times that for more mature companies. Zschau's research is generally thought to have played a key role in the subsequent decision to cut the capital gains tax rate.

In 1979, David L. Birch of the Massachusetts Institute of Technology, in a vastly expanded study, confirmed the importance of young, small firms in creating new jobs. Birch studied the activities in the early '70s of 5.6 million businesses that accounted for roughly 82% of all private sector employment. Birch found that two-thirds of the total employment growth came from companies with fewer than 20 employees and that most of those companies were less than five years old. "It appears," he said, "that it is the smaller corporations, despite their higher failure rates, that are aggressively seeking out opportunities, while the larger ones are primarily redistributing their operations."

Not surprisingly then, potential entrepreneurs, now armed with business experience, some personal savings, a heightened self-esteem, and still cherishing the '60s idealism, began to leave corporate security to strike out on their own.

"I was determined to make an investment in myself," says Bill Foster, a 36-year-old entrepreneur who typifies the quality of thought currently loose in the land. Foster quit his job as vice-president of software development at Data General in July 1979, and in May 1980, founded Stratus Computer Inc. with $1.7 million in venture capital seed money.

It has become increasingly clear that entrepreneurship gives you more bang for your buck.

"I always thought about starting my own company," he says, "but at the same time, I always had a lot of security where I was. I was getting promotions and raises regularly. But in 1979, I suddenly understood very clearly that the worst possible thing that could happen to me in my lifetime would be to wake up when I was 70 years old and have to say, 'You never even tried.' "

Foster's company is less than a year old. There are no sales yet at this Massachusetts-based manufacturer of minicomputer systems, but, says Foster, "Quitting was the best decision I ever made."

And Tony Muller, vice-president of finance and one of the founders of two-year-old Econics Inc. agrees. In 1978, Muller left his job at Spectra-Physics to join two friends, also from a large company, to start Econics. The California-based company makes sensor controllers for large boilers that monitor the chemical composition of gases and the efficiency of combustion to reduce energy costs.

"Entrepreneurship is all over the place," Muller says. "It's an offshot of the mood of the '60s. People are more concerned with their individuality. The way I look at it, you take a very high risk if you decide to stay with the management of a large company. It's a lot riskier than starting your own small business. If you stay, you're dependent on so many things for upward mobility: You've got to do a good job, wait until the right people die off, hope that the company does well, beat out the other 400,000 people who want the same position, and pray there's not a sudden management change just as you get in line for a promotion.

"You want to see the ideal job?" he adds. "Well, come to work with me in the morning."

There you have it, boss: the renaissance of the entrepreneur, the ascendancy of small business. I know it's going to catch on. People want to see it: a slightly battered American legend to save the day in a time of crisis. It's very American. Whenever someone is giving me a piece of the big think, I close my eyes and pretend it's being played out on the silver screen. If, near the end, I hear the bugle call of the charging U.S. Cavalry, I know it will draw big crowds. I hear the bugles now.

Boss, it looks like the Society is going to be drowned in the depths of the venture capital pool, abused by federal and state government, and publicly humiliated by the zeitgeist.

Oh, you're probably going to tell me to go back and scratch up some bad news any way I can. But it's not going to do any good. I don't think the folks hear it anymore. It's like Philador Bigsby, the famous money manager, used to tell me when I worked at the brokerage firm. "Human nature," he said, "is always sitting at a desk with a pile of good news on the right and a pile of bad news on the left. Human nature reads from one pile at a time. That's called a trend, and you get creamed bucking the trend."

I hate to tell you, but about an hour ago human nature started reading from the good news pile. You may call it wishful thinking, so I'll close with a comment from Harold Livesay, the author. "The funny thing about the economy," he says, "is that wishing works." □

Regards,

Rodney Rudderless

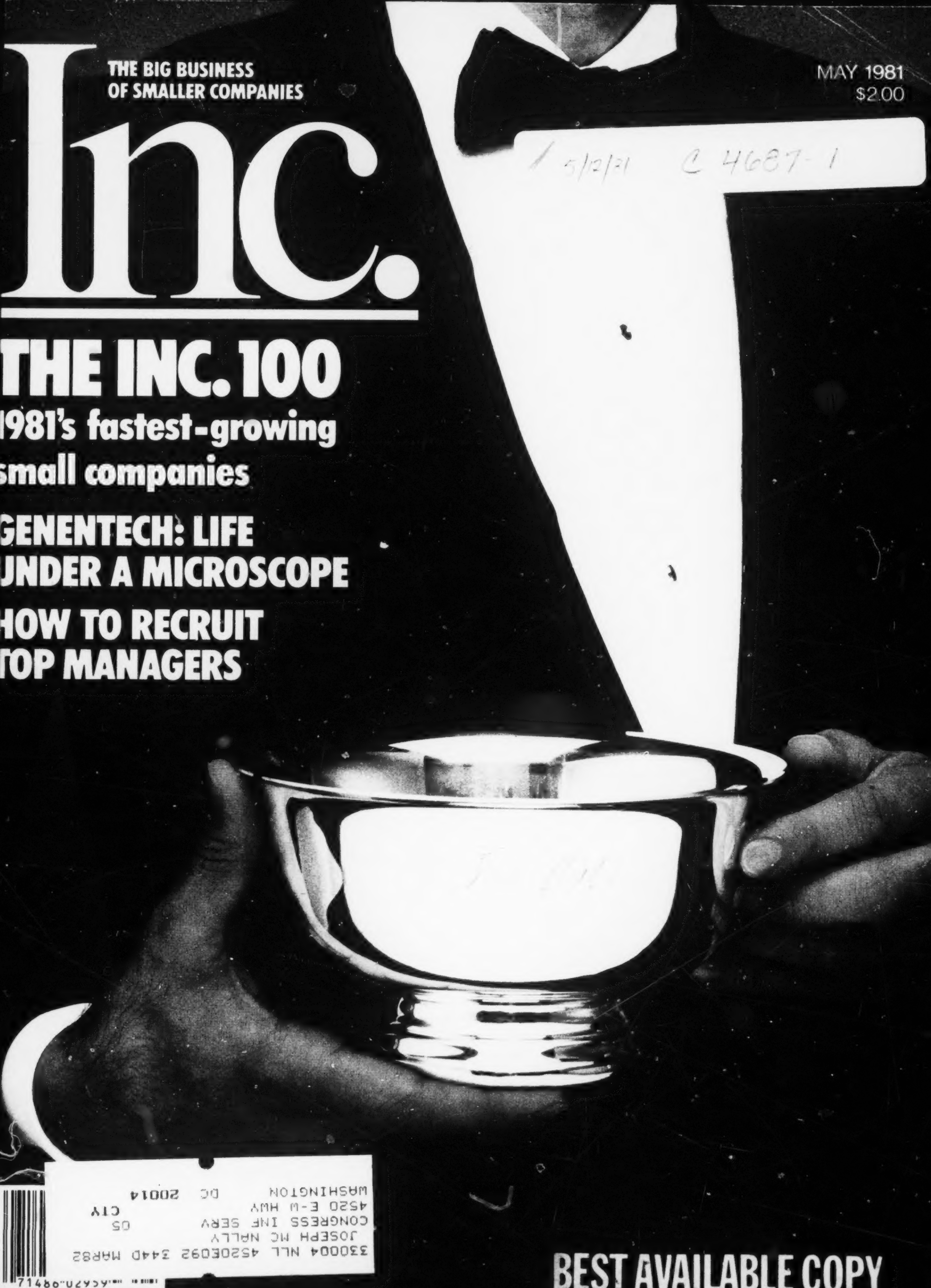
NOTE

ONLY THE FOLLOWING PAGES OF THIS

PUBLICATION HAVE BEEN FILMED

Cover 1, p. 3, 51-56, 58,

161-162.



Inc.

THE BIG BUSINESS
OF SMALLER COMPANIES

MAY 1981
$2.00

1 5/12/81 C 4687-1

THE INC. 100

1981's fastest-growing small companies

GENENTECH: LIFE UNDER A MICROSCOPE

HOW TO RECRUIT TOP MANAGERS

330004 NLL 4520E092 344D MAR82
JOSEPH MC NALLY
CONGRESS INF SERV 05
4520 E-W HWY CTY
WASHINGTON DC 20014

BEST AVAILABLE COPY

MAY 1981

CONTENTS

VOL.3,NO.5

DEPARTMENTS

From the editor 7

Letters 10

Speaking out 16
Numbers that lie: We need to reinterpret what is meant by business "failure."

Off the record 21
Why bureaucrats do nothing: It pays off.

Economic issues 22
Evening the odds: How the government's neutrality threatens small business.

People & innovations 26

News & trends 31

Washington update 46

Time out 155
Ordering wine in a restaurant doesn't have to be an ordeal.

Investing in growth companies 161
Capital gains: tracking the INC. 100.

Taxes 164
Inventory accounting: a cheer and a caveat.

Personal financial planning 166
If accident or illness strikes a key person, a buy-out disability plan can help your company survive.

Marketing 168
Cable TV goes to work to help small companies sell.

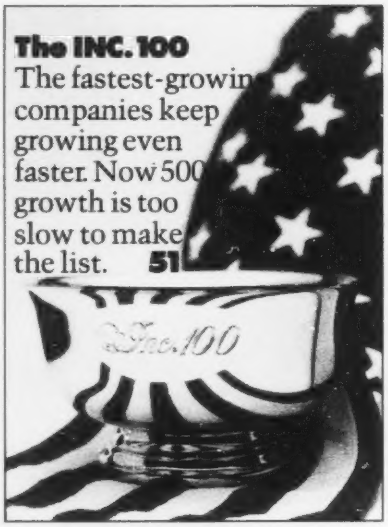
Ideas you can use 172

Books 181
Tax tips to help keep your money for yourself; Understanding your computer.

The buck stops here 184

Cover photo
Steve Schmitt

COPYRIGHT © 1981 BY INC. PUBLISHING COMPANY
All rights reserved. INC. is published monthly by Inc. Publishing Company. ISSN: 0162-8968. Editorial and executive offices at 38 Commercial Wharf, Boston, MA 02110. Telephone (617) 227-4700. Bernard A. Goldhirsh, President; John W. Carlson, Vice-President; Norman Raben, Vice-President. ☐ **SUBSCRIPTION:** One-year subscription rate for U.S. and possessions, $18.00; Canada, $30.00. All other countries, one-year subscription rate $45.00, cash orders only, payable in U.S. currency. Forms 3579 and all subscription correspondence should be addressed to INC. Magazine, P.O. Box 2538, Boulder, CO 80322. Please allow at least six weeks for change of address. Include your old address as well as new, and enclose if possible an address label from a recent issue. ☐ Controlled circulation postage paid at Boston, Mass., and at additional mailing offices. Material in this publication may not be stored or reproduced in any form without permission. Requests for permission should be directed to Rights and Permissions Editor, INC., 38 Commercial Wharf, Boston, MA 02110.



The INC. 100
The fastest-growing companies keep growing even faster. Now 500% growth is too slow to make the list. 51

Genentech: life under a microscope
Wall Street and the media study Bob Swanson's every move. 62

Worth a thousand words
Last year was a very good year for editorial cartoonists concerned about small business. 70

How to end the inventory poker game
Jack Hoyt decided to write new rules for the game. Now he and his customers are piling up profits, not inventories. 76

An acquisition that went like clockwork
Rick Leavitt wanted to buy a company that was healthy, ready to grow, and reasonably priced. 80

They all said Bill Savoy couldn't let go
It took 30 years for this owner to get serious about delegating authority. 89

The bottom line on day care
Helping your employees take care of their children can offer surprising financial benefits. 94

Morton loves Hazel
Morton Edell's affair with the Hazel Bishop cosmetics line began in 1960. Now they're on their second honeymoon. 105

Kelvin Smythe's mission impossible
Oil Mop's dynamic leader charged ahead into each new problem. One day he found he'd gone too far, too fast. 112

Hail Britannia, small business rules
Sir Charles Villiers wants to revive the Industrial Revolution. He's come to the United States to learn what strategies will work. 120

Making R&D pay
Valleylab's Robert Anderson has learned how to run a profitable R&D program with a minimum of surprises. 128

Can a small company attract top managers?
Yes, says an expert recruiter. But don't try to fit a square peg in a round hole. 137

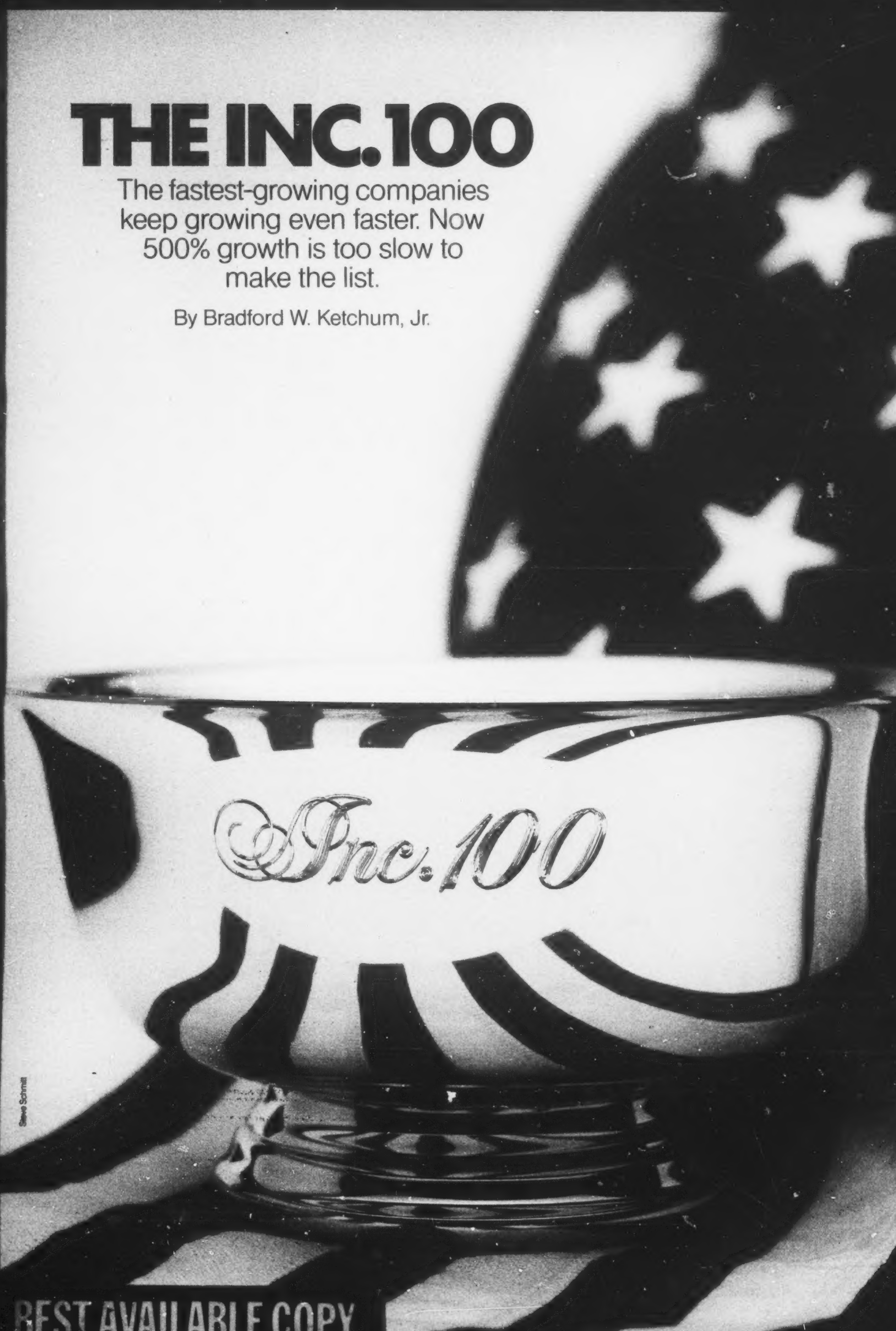
Rodgers & company runs on a fast track
Marathon runner Bill Rodgers opened a store just to keep body and soul together. 142

Psssst! (Do you want to know a secret?)
Some legal and inexpensive ways to find out what your competitors are up to. 150

THE INC. 100

The fastest-growing companies keep growing even faster. Now 500% growth is too slow to make the list.

By Bradford W. Ketchum, Jr.



Steve Schmitt

BEST AVAILABLE COPY

The 1981 INC. 100 companies are a symbol of true human achievement. During a year of economic turbulence marked by sky-high interest rates, punishing inflation rates, and a pseudo recovery, the entrepreneurs who run these 100 companies pushed their people to outperform all other business groups by every measure. In 1980, the nation's largest corporations managed sales increases that barely kept pace with inflation and profit increases that didn't. In the same year, these 100 companies exploded, creating jobs, wealth, and innovations at a meteoric rate. While the giants posted a 1980 sales gain of 15%, the INC. 100 companies chalked up a vigorous 52% increase. Similiarly, while the nation's 1,000 largest companies mustered a mere 2% to 3% increase in aftertax earnings, the INC. 100 closed 1980 with a 50.1% surge in profits.

Spectacular as the INC. 100's 1980 performance was, it represents only the most recent installment in a five-year period best described as explosive. From 1976 to 1980, sales of the 100 companies soared by 1,188%, an average compound rate of 89.4% per year. Every company that qualified for this year's ranking registered at least a sixfold increase in sales during the 1976-80 base period.

These 100 companies represent INC.'s third annual ranking of the fastest-growing, publicly held smaller corporations in the United States. Led by a mining company and anchored by a petroleum producer, the

THE INC. 100

Rank '81	Rank '80	Company	Sales Growth 1976-80 Percent increase	Sales Growth 1976-80 Compound annual rate	Closing date	'80 Sales ($000)	'76 Sales ($000)
1	☐	**Cobb Resources** (Albuquerque)	366,567%	678%	6/30	$ 11,000	$ 3
2	☐	**DSI** (Nashville)	248,224	606	12/31	42,215	17
3	☐	**Gulf Energy** (Salt Lake City)	43,843	358	4/30	3,076	7
4	1	**Tandem Computers** (Cupertino, Calif.)	18,659	270	9/30	108,989	581
5	☐	**Tandon** (Chatsworth, Calif.)	12,475	235	9/26	22,761	181
6	☐	**Electro-Biology** (Fairfield, N.J.)	12,330	234	12/31	5,345	43
7	2	**Cray Research** (Mendota Heights, Minn.)	11,835	231	12/31	60,748	509
8	☐	**Network Systems** (Brooklyn Park, Minn.)	9,408	212	12/31	13,121	138
9	3	**NBI** (Boulder)	7,068	191	6/30	32,903	459
10	6	**Cado Systems** (Torrance, Calif.)	6,096	181	12/31	46,597	752
11	☐	**Seal Fleet** (Galveston)	5,036	168	12/31	11,402	222
12	☐	**Nutri/System** (Melrose Park, Pa.)	3,806	150	7/31	23,204	594
13	11	**Printronix** (Irvine, Calif.)	3,748	149	3/30	36,976	961
14	☐	**Intelligent Systems** (Norcross, Ga.)	3,684	148	3/31	14,492	383
15	☐	**Creative Foods** (Port Washington, N.Y.)	3,442	144	1/31	17,110	483
16	☐	**Optel** (Holbrook, Mass.)	3,317	142	12/31	120,876	3,538
17	☐	**Saxon Oil** (Dallas)	2,823	133	12/31	66,857[2]	2,287
18	☐	**Bio-Medical Sciences** (New York)	2,812	132	12/31	47,176[2]	1,620
19	4	**Thousand Trails** (Seattle)	2,799	132	12/31	33,950	1,171
20	10	**RSI** (Greenville, S.C.)	2,743	131	8/31	73,747	2,594
21	☐	**Sterling Oil of Oklahoma** (Tulsa)	2,681	130	12/31	14,600[1]	525
22	9	**DPF** (Hartsdale, N.Y.)	2,675	130	5/31	627,073	22,600
23	☐	**Symbol Technologies** (Hauppauge, N.Y.)	2,585	128	8/31	2,390	89
24	☐	**Sterling Pipe & Supply** (Oklahoma City)	2,579	127	10/31	48,644	1,816
25	☐	**Silicon Systems** (Tustin, Calif.)	2,325	122	9/30	10,500	433
26	☐	**Dimis** (Middletown, N.J.)	2,251	120	12/31	4,067	173
27	23	**Air Florida System** (Miami)	2,243	120	7/31	114,285	4,877
28	☐	**Magnetic Head** (Glen Head, N.Y.)	1,933	112	11/30	8,396	413
29	☐	**Nike** (Beaverton, Oreg.)	1,813	109	5/31	269,775	14,100
30	22	**Tomlinson Oil** (Wichita)	1,795	109	8/31	62,019	3,273
31	16	**Wespercorp** (Tustin, Calif.)	1,781	108	6/30	9,632	512
32	21	**FSC** (Pittsburgh)	1,719	107	12/31	159,861[3]	8,787
33	☐	**Billings** (Independence, Mo.)	1,643	104	12/31	10,007[1]	574
34	☐	**Amarco Resources** (Dallas)	1,518	101	6/30	7,604	470
35	26	**Reeves Communications** (New York)	1,512	100	6/30	44,408	2,754
36	☐	**Tellabs** (Lisle, Ill.)	1,499	100	12/31	43,680	2,732
37	☐	**Pacer Technology & Resources** (Campbell, Calif.)	1,483	99	12/31	4,100[1]	259
38	☐	**Dysan** (Santa Clara, Calif.)	1,424	98	10/31	62,871	4,125
39	☐	**Polaris Resources** (Denver)	1,395	97	12/31	9,000[1]	602
40	25	**Triad Systems** (Sunnyvale, Calif.)	1,363	96	9/30	56,513	3,864
41	100	**Golden Oil** (Denver)	1,362	96	6/30	3,568	244
42	☐	**Chemold** (Binghamton, N.Y.)	1,312	94	7/31	29,190	2,067
43	☐	**SafeCard Services** (Ft. Lauderdale)	1,217	91	10/31	16,137	1,225
44	☐	**Texas Energies** (Amarillo)	1,217	91	4/30	1,528	116
45	☐	**Transnet** (Union, N.J.)	1,210	90	6/30	8,828	674
46	8	**Floating Point Systems** (Portland, Oreg.)	1,195	90	10/31	42,405	3,275
47	☐	**Electromedics** (Englewood, Colo.)	1,139	88	12/31	3,010	243
48	☐	**Nuclear Pharmacy** (Albuquerque)	1,137	88	5/31	12,275	992
49	☐	**Sci Med Life Systems** (Plymouth, Minn.)	1,107	86	2/29	3,029	251
50	20	**Prime Computer** (Natick, Mass.)	1,074	85	12/31	267,637	22,797

[1] Company estimate [2] INC. estimate [3] 9-month figure [4] Excludes part-time employees

100 companies are ranked according to their percentage increase in sales or revenues, based on 1976 and 1980 fiscal[1] year results. Five years ago, the 100 firms averaged $3.9 million in sales. None had more than $22.8 million in revenues and only 10 topped $10 million. Today, the INC. 100's average volume is $50 million, with 55 of the companies surpassing the $25-million mark.

The ranking, which includes 38 members of last year's roster (see box, page 56), represents a diverse range of manufacturing, mining, and service industries. It includes 26 computer and business equipment makers, 20 oil and gas producers, 10 manufacturers in the medical field, 2 fast-food franchisees, and 2 airlines. The elite group represents 25 states: California is the front-runner with 18 companies, followed by New York, 12; Colorado, 9; Texas, 9; and Minnesota, 8.

Diverse as they are in industry and location, the INC. 100 share four characteristics. They are young, innovative, productive, and profitable. Forty-one have incorporated since 1971; 88 have incorporated since 1961. On the average, the INC. 100 firms have been in business less than 13 years. Start-ups not long ago, they are now the upstarts on the leading edge of high technology and creative marketing. The list includes innovators in computer leasing, direct mail, home health care, hydrogen research, and oil-field supplies, as well as data communications, drugs,

'80 Net income ($000)	'76 Net income ($000)	'80 Net income as % of sales	No. of employees		Acquisitions '76-'80	Date inc.	Business description
			'80	'76			
$ 1,190	(40)	10.8	100	6	Yes	1969	Uranium, precious metals mining; oil & gas expl.
860	(121)	2.0	650	2	Yes	1967	Computer output microfilm and videotape services
140	(66)	4.6	84	12	Yes	1968	Oil, gas & coal development
10,687	(2,169)	9.8	1,630	71	No	1974	Mfr. multiple processor computers
1,507	20	6.6	578	20	No	1976	Mfr. flexible disk drives for minicomputers
(1,614)	(5)	--	145	8	No	1975	Medical services (electro-mag. treatment of fractures)
10,900	(1,551)	17.9	761	124	No	1972	Mfr. large-scale computers
1,884	(980)	14.4	204	37	No	1974	Mfr. data communications equipment
3,205	(860)	9.7	670	55	No	1973	Mfr. word processing systems
4,501	(107)	9.7	148	15	No	1973	Mfr. small business computers
1,805	(145)	8.2	200	2	Yes	1969	Owner-operator offshore supply vessels
3,751	44	16.2	425	45	Yes	1976	Owner/franchisor weight loss centers
3,137	(96)	8.5	850	60	No	1974	Mfr. computer line printers
487	(3)	3.4	185	20	No	1973	Mfr. display terminals & desktop computers
(103)	82	--	95[4]	10	No	1969	Operator 50 Burger King restaurants
1,442	(9,048)	1.2	840[4]	325	Yes	1969	Operator discount stores, drug wholesaler
5,750[2]	392	8.6	145	18	No	1968	Oil & gas exploration
2,572[3]	(5,159)	7.5[3]	625	296	Yes	1967	Mfr. women's sportswear & medical thermometers
4,536	(194)	13.4	790	75	Yes	1969	Develops/operates campground resorts
2,079	(695)	2.8	746	98	Yes	1972	Mfr. turf & heat transfer equip.; motels; bottler
300[1]	50	2.1	200	20	Yes	1948	Oil & gas production; mfr. mobile quarters; air service
7,400	2,234	1.2	14,000	150	Yes	1961	Equipment leasing; wholesale baking
(100)	(100)	--	68	5	No	1973	Mfr. laser scanners for bar coding
1,166	(183)	2.4	50	8	Yes	1976	Oil field equipment supplier
599	57	5.7	155	17	No	1972	Mfr. custom integrated circuits
480	(227)	11.8	41	7	No	1974	Designs/sells EDP systems for wholesalers
5,070	(748)	4.4	1,900	200	Yes	1955	Commercial airline
429	(110)	5.1	128	20	Yes	1968	Mfr. precision parts & protective coatings
12,505	600	4.6	2,600	400	No	1968	Mfr. athletic footwear
2,992	1,367	4.8	57	28	Yes	1957	Oil & gas exploration, production, refining
765	30	7.9	153	30	No	1975	Mfr. controllers for mini/micro computers
4,019[3]	(112)	3.4[3]	996	48	Yes	1969	Mfr. dry cleaning equip.; leasing; refinery
(608)[2]	(108)	--	218	38	Yes	1973	Mfr. hydrides & electrolyzers; hydrogen research
181	30	2.4	170	20	Yes	1972	Oil field services; oil & gas production
3,946	23	8.9	330	168	Yes	1969	Producer/distributor of movies for TV & cinema
6,608	194	15.1	571	48	No	1975	Mfr. telephone switching & signalling equipment
602[3]	17	18.7[3]	100	13	No	1975	Mfr. industrial adhesives
7,993	393	12.7	1,800	200	Yes	1972	Mfr. rotating magnetic media for computers
175[1]	2	1.9	50	15	Yes	1969	Oil & gas exploration; mining equipment supplier
5,031	201	8.9	1,000	80	No	1972	Mfr. microcomputer systems
872	(173)	24.4	7	2	No	1970	Oil & gas exploration
1,174	(1,193)	4.0	311	97	Yes	1949	Mfr. women's swimwear; refrigeration equip.
3,056	315	18.9	200	20	No	1969	Direct mail & marketing services
234	75	15.3	28	6	Yes	1966	Oil & gas exploration
971	(100)	11.0	29	6	Yes	1969	Marketing/leasing of computer terminals & equip.
3,765	479	8.9	850	82	No	1970	Mfr. array processors
230	(691)	7.6	106	5	No	1972	Mfr. medical temperature devices
(272)	(174)	--	250	100	Yes	1974	Dispenser of radio-pharmaceuticals
183	(135)	6.0	95	30	No	1972	Mfr. disposable & implantable medical products
31,222	2,429	11.7	4,011	520	No	1972	Mfr. computers

medical devices, and precision instruments. In almost one out of five cases, "systems" or "technology" is part of the corporate name. A similar number also boast names that include the words energy, oil, or resources.

Products of the free enterprise system themselves, the INC. 100 have accelerated competition in the country's fastest-growing fields and have outpaced giant counterparts in several fields. Among INC. 100 companies in the computer industry, for example, the five-year compound average annual growth rates range from 60% (Adac Laboratories) to 270% (Tandem). Among the blue-chip leaders in the same industry, the compound growth rates range from 28% (Burroughs) to 55% (Control Data). The INC. 100 contingent in the energy field has pumped out compound growth rates from 57% (Wainoco) to 678% (Cobb), exceeding major oil companies' performance of 13% (Gulf) to 25% (Mobil) by a hefty margin. Overall, while total sales posted by the nation's 1,000 largest companies rose slightly more than 71% between 1976 and 1980, the INC. 100's sales skyrocketed to a gain of 1,188%.

Using sales per employee as a yardstick, the smaller growth companies generate greater volume per worker than most of their giant counterparts. Cado Systems, for example, rang up almost five times as much sales per employee last year as IBM. Compared with U.S. Shoe and Stride Rite, Nike produces triple the sales dollars per worker.

THE INC. 100 *(continued)*

Rank			Sales Growth 1976-80				
'81	'80	Company	Percent increase	Compound annual rate	Closing date	'80 Sales ($000)	'76 Sales ($000)
51	5	**Volunteer Capital** (Brentwood, Tenn.)	1,051%	84%	12/31	$ 62,081	$ 5,394
52	☐	**Nord Resources** (Dayton)	1,050	84	12/31	12,471[2]	1,084
53	17	**Econo-Therm Energy Systems** (Minnetonka, Minn.)	1,041	84	2/28	24,585	2,154
54	29	**Shopsmith** (Vandalia, Ohio)	1,032	83	3/31	30,107	2,659
55	☐	**Intermedics** (Freeport, Tex.)	1,001	82	10/31	105,208	9,558
56	51	**Petroleum Equipment Tools** (Houston)	896	78	12/31	92,715	9,306
57	30	**Commodore** (Syracuse, Ind.)	896	78	6/30	179,954	18,066
58	28	**Rolm** (Santa Clara, Calif.)	886	77	6/29	200,729	20,357
59	33	**Data Terminal Systems** (Maynard, Mass.)	868	76	1/31	107,192	11,074
60	☐	**Hurco Manufacturing** (Indianapolis)	863	76	10/31	28,490	2,959
61	13	**Acton** (Acton, Mass.)	846	75	12/31	186,720	19,745
62	☐	**Compact Video Systems** (Burbank, CA)	808	74	4/30	34,002	3,744
63	☐	**M.D.C.** (Denver)	792	73	12/31	32,600	3,656
64	☐	**Inter-Tel** (Phoenix)	790	73	11/30	10,648	1,197
65	41	**Quality Care** (Rockville Centre, N.Y.)	770	72	11/30	30,738[2]	3,534
66	☐	**Minnetonka** (Chaska, Minn.)	767	72	12/31	73,214	8,446
67	☐	**Petrominerals** (Santa Ana, Calif.)	764	71	12/31	25,000[1]	2,894
68	☐	**Team** (Houston)	747	71	5/31	24,197	2,856
69	☐	**Staodynamics** (Longmont, Colo.)	732	70	2/28	3,268	393
70	45	**Data Access Systems** (Blackwood, N.J.)	727	70	8/31	37,242	4,504
71	37	**Chem-Nuclear Systems** (Bellevue, Wash.)	720	69	7/31	46,390	5,655
72	☐	**Nucorp Energy** (San Diego)	717	69	12/31	93,951	11,493
73	32	**Chuck Barris Productions** (Hollywood)	714	69	5/31	38,514	4,730
74	☐	**Health Extension Services** (Syosset, N.Y.)	713	69	9/30	5,153	634
75	79	**Interface Mechanisms** (Lynnwood, Wash.)	690	68	3/31	10,164	1,287
76	☐	**Swanton** (New York)	688	68	1/31	9,327	1,183
77	☐	**Newport Pharmaceuticals** (Newport Beach, Calif.)	681	67	4/30	4,661	597
78	☐	**CGA Computer Associates** (Cranford, N.J.)	676	67	4/30	19,227	2 479
79	35	**Rampart General** (Santa Ana, Calif.)	676	67	3/31	27,589	3,553
80	☐	**Mentor** (Minneapolis)	673	67	3/31	2,946	381
81	☐	**Ind'l. Solid State Controls** (York, Pa.)	670	67	6/30	33,207	4,312
82	52	**Auto-trol Technology** (Denver)	640	65	12/31	51,600[1]	6,971
83	55	**Coradian** (Latham, N.Y.)	637	65	12/31	35,919	4,875
84	☐	**Key Pharmaceuticals** (Miami)	630	64	12/31	23,726	3,252
85	☐	**Seneca Oil** (Oklahoma City)	617	64	9/30	8,591	1,198
86	☐	**Dyco Petroleum** (St. Louis Park, Minn.)	616	64	12/31	32,377	4,519
87	☐	**Chomerics** (Woburn, Mass.)	611	63	12/31	31,029	4,364
88	68	**Paradyne** (Largo, Fla.)	608	63	12/31	75,907	10,722
89	27	**Telecom Equipment** (Long Island City)	604	63	12/31	40,000[1]	5,682
90	☐	**Andersen 2000** (College Park, Ga.)	574	61	9/30	5,942	882
91	☐	**Petro-Lewis** (Denver)	572	61	6/30	111,087	16,531
92	☐	**Kratos** (La Jolla, Calif.)	568	61	12/31	55,507	8,313
93	63	**Adac Laboratories** (Sunnyvale, Calif.)	554	60	9/30	18,782	2,870
94	☐	**Flight Transportation** (Eden Prairie, Minn.)	551	60	6/30	8,039	1,234
95	92	**Matrix** (Northvale, N.J.)	550	60	8/31	19,571	3,009
96	☐	**Presidio Oil** (Denver)	542	59	6/30	4,919	766
97	☐	**C3** (Reston, Va.)	528	58	3/31	13,984	2,228
98	☐	**Kinder-Care Learning Centers** (Montgomery, Ala.)	521	58	5/30	56,578	9,109
99	☐	**Delhi International Oil** (Dallas)	515	58	12/31	27,138	4,410
100	53	**Wainoco Oil** (Houston)	510	57	12/31	36,009	5,901

[1] Company estimate [2] INC. estimate [3] 9-month figure [4] Excludes part-time employees

And in the oil industry, Tomlinson's revenues per employee are double those of Exxon and Texaco. Among the INC. 100 overall, sales per employee averages more than $56,300, with a mean of $74,520.

More important than employee sales statistics, however, is the growth in the number of employees among the INC. 100. In the past five years, the overall size of the INC. 100's work force has jumped by 663%—a significant figure compared with the 12% increase registered by the top 500 industrials. In fact, General Motors has laid off more workers in recent months than the entire INC. 100 currently employs.

Among the 42 companies whose growth was generated internally and not by acquisition, the increase in number of employees is a substantial 734%. In short, their payrolls have expanded more than eightfold and that translates into almost 19,700 new jobs created in the past five years.

The majority of INC. 100 companies did expand externally during the 1976-80 period, confirming that smaller companies are as adept as their giant counterparts when it comes to the takeover game. Acquisitions played a role in the growth of 58 companies in the five-year period, up from 48 who reported acquisitions last year. Most notable among the list of buyers is DPF (No. 22), which closed fiscal '76 with sales of $22.6 million and the acquisition of Interstate Brands Corp. Sales of the diversified wholesale baking and computer leasing firm now top $627 million, making

'80 Net income ($000)	'76 Net income ($000)	'80 Net income as % of sales	No. of employees '80	No. of employees '76	Acquisitions '76-'80	Date inc.	Business description
$ (101)	370	--	5,310	566	Yes	1971	Fast-food franchisee & restaurant chain (Wendy's)
(184)[3]	(423)	--	210	348	Yes	1971	Mineral/ore mining & exploration
(257)	(61)	--	450	40	Yes	1961	Mfr. energy-related equip. for petrochemical industry
1,445	233	4.8	1,200	73	Yes	1972	Mfr. woodworking equipment
10,732	887	10.2	1,575	371	Yes	1973	Mfr. cardiac pacemakers, eye lenses, biomedical devices
13,822	1,445	14.9	1,196	398	Yes	1967	Rents oil & gas drilling equipment
(2,601)	(678)	--	2,400	400	Yes	1952	Mfr. mobile homes & recreation vehicles
17,340	1,264	8.6	4,225	475	Yes	1969	Mfr. computers & telephone switching systems
9,550	1,000	8.9	2,000	150	Yes	1970	Mfr. electronic terminals & cash registers
256	440	0.9	365	70	No	1968	Mfr. computerized machine tools
4,798	1,521	2.6	3,500	125	Yes	1960	Mfr. snack foods; owner/operator cable TV, radio
2,280	308	6.7	400	150	Yes	1971	Mfr./rental mobile video units & systems
2,183	139	6.7	130	49	No	1972	Real estate development, welding supplier
1,051	81	9.9	110	18	No	1969	Mfr. digital & electromech. telephone systems
64[3]	29	0.3[3]	2,100	241	Yes	1969	Home health care services, franchises
5,534	307	7.6	600	175	Yes	1964	Mfr. personal care products
4,993[3]	730	22.2[3]	200	10	Yes	1966	Oil & gas exploration
1,639	225	6.8	625	300	Yes	1973	Oilfield & energy conservation services
27	(52)	0.8	98	30	Yes	1975	Mfr. nerve stimulators
5,148	609	13.8	393	68	Yes	1969	Data terminal & peripheral equipment supplier
4,479	739	9.7	381	79	Yes	1969	Nuclear & chemical waste disposal services
8,845	(119)	9.4	1,200	147	Yes	1967	Oil & gas exploration; mfr. energy equip.
6,316	367	16.4	120	14	No	1968	TV programs & film production
235	(11)	4.6	2,000	8	No	1975	Home health care & related equipment rental
863	95	8.5	288	33	No	1969	Mfr. label printing & reading devices
952	(171)	10.2	70	9	Yes	1972	Coal & gas production; financial services
(333)	(381)	--	120	49	Yes	1971	Develop/mfr. antiviral pharmaceutical compounds
1,760	308	9.2	368	77	Yes	1968	Computer consulting services & software packages
(431)	(249)	--	180	28	No	1966	Mfr. fireplaces; real estate development
63	(44)	2.1	32	12	No	1969	Mfr. clinical devices; bio-medical engineering
1,866	78	5.6	649	200	Yes	1962	Mfr. programmable controllers
4,500[1]	460	8.7	650	112	No	1962	Mfr. interactive graphic systems & digitizers
553	(2)	1.5	500	127	No	1959	Sells/services private telephone systems
3,177	373	13.4	400	100	Yes	1947	Mfr. ethical drugs
2,220	229	25.8	48	8	No	1936	Oil & gas exploration
8,503	1,530	26.3	150	39	Yes	1971	Mgmt. of public drilling programs for oil & gas
1,821	152	5.9	700	90	Yes	1961	Mfr. keyboards & shielding materials
8,247	516	10.9	1,736	229	No	1969	Mfr. data communications equipment
2,670[1]	(466)	6.7	530	55	Yes	1969	Mfr. private telephone systems
536	173	9.0	27	16	No	1971	Mfr. pollution control equipment
22,259	1,030	20.0	1,500	300	Yes	1968	Oil & gas production
3,447	556	6.2	1,092	392	Yes	1964	Mfr. precision instruments
880	(497)	4.7	349	100	No	1970	Mfr. imaging computers for nuclear medicine
319	(7)	4.0	52	77	No	1968	Charter airline
1,858	23	9.5	260	54	Yes	1956	Mfr. diagnostic medical instruments
281	(13)	5.7	38	6	Yes	1976	Oil exploration & production
2,354	435	16.8	150	35	No	1971	Data processing systems design & services
3,449	510	6.1	7,200	1,300	Yes	1969	Day care services & learning centers
4,784	1,802	17.6	260	140	Yes	1958	Oil & gas exploration, contract drilling
7,051	1,542	19.6	250	48	No	1949	Oil & gas exploration, production

The INC. 100 Profile (1980)

No. of firms by industry	
Manufacturing	53
Services	30
Mining (including oil & gas)	17
Total sales ($ billion)	$5.0
Percent change (1976-80)	+1,188%
Percent change (1979-80)	+52.2%
Total net income ($ million)	$347.8
Percent change (1976-80)	+26,208%
Percent change (1979-80)	+50.1%
Mean sales in 1980 ($ million)	$29.6
Mean sales in 1976 ($ million)	$2.3
Comp. average annual sales growth (1976-80)	
Total	89.4%
Range	57%-678%
Mean	84.5%
Net income as percent of sales	
Range	0.3%-26.3%
Mean	8.7%
No. acquiring other firms (1976-80)	58
No. incorporated since 1971	41
Total no. of employees	
1980	88,732
1976	11,623
Percent change (1976-80)	+663%

it the only INC. 100 company that has also earned a standing among the *Fortune* 500.

In terms of earnings, the INC. 100 firms are as profitable as they are innovative and productive. From 1976 through 1980, total net income for the 100 smaller companies soared by 26,208%, while 44 companies closed 1976 with red ink on their profit and loss statements, only 11 were wrestling with deficits at the end of 1980. More important, 83 posted gains in earnings last year, with net profit at 7% of sales, up from 0.3% five years ago.

Understandably, pegging the INC. 100's return on equity is difficult, if not impossible. Small growth companies in general are highly leveraged, and the companies that make up the INC. 100 are no exception. Substantial changes in equity due to new stock issues, coupled with the idiosyncrasies of calculating return ratios, further distort the figures. By INC. estimates, however, the return on equity among the INC. 100 firms ranges from 2.1% to 247.3%, with a highly enviable median of 28.7%.

As with any ranking of elite companies, the INC. 100 raises curiosity about the firms that finished as runners up and those that were disqualified. Among the runners-up are at least 100 companies that have quadrupled or quintupled their sales in the past five years. INC. will list these "Second 100" firms in a special feature next month.

Among the companies disqualified, the most noteworthy this year are those that were eliminated because they have yet to establish a five-year operating history. These youngsters testify to the meteoric growth of

Top 10 Performers: How Productive, How Profitable?

1980 Productivity*

(Sales per employee)

Rank	Company (INC. 100 Rank)	Sales per employee
1.	Sterling Pipe & Supply (24)	$972,880
2.	Chuck Barris Productions (73)	320,950
3.	Cado Systems (10)	314,845
4.	Transnet (45)	304,414
5.	Andersen 2000 (90)	220,074
6.	Flight Transportation (94)	154,596
7.	Reeves Communications (35)	134,570
8.	Minnetonka (66)	122,023
9.	Chem-Nuclear Systems (71)	121,759
10.	Nike (29)	103,760

*Does not include capital intensive oil and gas developers or companies whose primary business is leasing or real estate

1980 Profitability

(Net income as % of sales)

Rank	Company (INC. 100 Rank)	Net income % of sales
1.	Dyco Petroleum (86)	26.3%
2.	Seneca Oil (85)	25.8
3.	Golden Oil (41)	24.4
4.	Petrominerals (67)	22.2
5.	Petro-Lewis (91)	20.0
6.	Wainoco Oil (100)	19.6
7.	SafeCard Services (43)	18.9
8.	Pacer Technology (37)	18.7
9.	Cray Research (7)	17.9
10.	Delhi International (99)	17.6

Where's the Class of '80?

Thirty-eight of the 1980 INC. 100 companies graduated to the 1981 listing. Of those, however, only two moved up in ranking. The other 36 relinquished higher rankings but remain members of an elite club where 1,000% sales growth in the past five years is more the rule than the exception.

What of the other 62 companies? Five are no longer independent, having been acquired by larger companies within the last year. They include Continuous Curve Contact Lenses, Documation, Geneve, Trans Delta, and Valtec.

Seven others did not meet the basic criterion: sales of less than $25 million in the base year 1976. In this category are Computervision, Emerson Radio, Galveston-Houston, Liberty Homes, MetPath, Southwest Airlines, and Texas American Oil—five of which have passed not only the $25-million mark but the $100-million mark in the past five years.

Eight companies in last year's ranking closed fiscal 1980 with sales decreases, thus failing to qualify. Notable among those who saw sales slide are Invesco International, down 34%; American Medical Buildings and UniShelter, down 15.5%; and Xonics, down 15.2%.

Forty-one other 1980 INC. companies grew in the new base period, but off the +500% pace of this year's top 100. At least 22 of those have earned ranking among INC.'s Second 100 fastest-growing smaller companies. Representing companies whose sales have soared 300% to 497% in the past five years, the Second 100 ranking will be published in INC's next issue. Runners-up to the Second 100 list include 13 1980 INC. 100 companies with sales hikes of 208% to 285% in the last five years—outstanding performance by any standard other than the INC. 100/200.

Finally, the Class of '80 is not without a casualty. From 1979 sales of $35.3 million and a net loss of $853,000, Allied Technology (No. 38 last year) plunged into bankruptcy in 1980. Under Chapter XI, the Ohio-based electronic-parts maker registered more than $8 million in red ink last year against undisclosed revenues.

AIR FLORIDA

CHEM-NUCLEAR SYSTEMS, INC.

CRAY RESEARCH, INC.

SHOP SMITH

Auto-trol

ROLM Telecommunications

emerging companies. Among the most celebrated companies in this category are St. Jude Medical, Apple Computer, Pizza Time Theatre, and Genentech, none of which were generating sales five years ago. Since 1977, however, St. Jude Medical's revenues have soared by 33,411% and Apple Computer's by 15,133%. Genentech, which began generating operating revenues in 1978 (see story, page 62), has registered a 947% gain in three short years. Pizza Time Theatre boasts an even more spectacular gain of 3,181% in the same period.

Will the INC. 100's spectacular growth continue? Many who watch small companies as investments say the bubble will inevitably burst. When price-earnings ratios open in three digits, when companies can successfully go public with no operating history, when everybody succumbs to high-flyer mania, they say, that's a sign that there's trouble brewing.

But the INC. 100 aren't frivolous companies. They are intimately involved in solving our nation's problems: finding and developing new sources of energy; making medical instruments and services to help us live healthier lives; increasing the efficiency of our offices and factories; even creating new ways to feed, transport, and entertain us. In fact, the demand for these products and services is bound to keep growing as fast as these 100 companies can supply it.

INC. 100/Index

Trading	P/E Ratio	Company (Rank)
AMEX	12	Acton* (61)
OTC	42	Adac Laboratories* (93)
OTC	33	Air Florida System* (27)
OTC	42	Amarco Resources (34)
OTC	30	Andersen 2000 (90)
OTC	17	Auto-trol Technology* (82)
OTC	loss	Billings (33)
OTC	7	Bio-Medical Sciences (18)
OTC	22	CGA Computer Associates (78)
OTC	27	C3 (97)
OTC	21	Cado Systems* (10)
OTC	20	Chem-Nuclear Systems* (71)
OTC	NA	Chemold (42)
OTC	19	Chomerics (87)
OTC	26	Chuck Barris Productions* (73)
OTC	27	Cobb Resources (1)
AMEX	loss	Commodore* (57)
OTC	16	Compact Video Systems (62)
OTC	16	Coradian* (83)
NYSE	42	Cray Research** (7)
OTC	loss	Creative Foods (15)
NYSE	5	DPF* (22)
OTC	18	DSI (2)
AMEX	10	Data Access Systems* (70)
NYSE	10	Data Terminal Systems* (59)
AMEX	143	Delhi International Oil (99)
OTC	21	Dimis (26)
NYSE	28	Dyco Petroleum (86)
OTC	49	Dysan (38)
OTC	loss	Econo-Therm Energy Systems** (53)
OTC	loss	Electro-Biology (6)
OTC	NA	Electromedics (47)
OTC	2	FSC* (32)
OTC	10	Flight Transportation (94)
OTC	23	Floating Point Systems* (46)
OTC	41	Golden Oil** (41)
OTC	244	Gulf Energy (3)
OTC	71	Health Extension Services (74)
OTC	307	Hurco Manufacturing (60)
OTC	14	Ind'l. Solid State Controls (81)
OTC	62	Intelligent Systems (14)
OTC	24	Interface Mechanisms* (75)
OTC	20	Intermedics (55)
OTC	66	Inter-Tel (64)
AMEX	79	Key Pharmaceuticals (84)
OTC	26	Kinder-Care Learning Centers (98)
OTC	12	Kratos (92)
OTC	12	M.D.C. (63)
OTC	NA	Magnetic Head (28)
AMEX	31	Matrix* (95)
OTC	28	Mentor (80)
OTC	16	Minnetonka (66)
OTC	36	NBI* (9)
OTC	49	Network Systems (8)
OTC	loss	Newport Pharmaceuticals (77)
OTC	18	Nike (29)
OTC	NA	Nord Resources (52)
OTC	83	Nuclear Pharmacy (48)
OTC	25	Nucorp Energy (72)
OTC	14	Nutri/System (12)
OTC	2	Optel (16)
OTC	95	Pacer Technology & Resources (37)
AMEX	42	Paradyne* (88)
OTC	18	Petroleum Equipment Tools* (56)
AMEX	18	Petro-Lewis (91)
OTC	NA	Petrominerals (67)
OTC	NA	Polaris Resources (39)
OTC	77	Presidio Oil (96)
NYSE	27	Prime Computer** (50)
OTC	21	Printronix* (13)
OTC	NA	Quality Care* (65)
OTC	NA	RSI* (20)
OTC	loss	Rampart General** (79)
OTC	27	Reeves Communications* (35)
NYSE	30	Rolm** (58)
OTC	15	SafeCard Services (43)
OTC	24	Saxon Oil (17)
OTC	73	Sci Med Life Systems (49)
OTC	12	Seal Fleet (11)
OTC	32	Seneca Oil (85)
OTC	8	Shopsmith* (54)
OTC	49	Silicon Systems (25)
OTC	34	Staodynamics (69)
OTC	30	Sterling Oil of Oklahoma (21)
OTC	16	Sterling Pipe & Supply (24)
OTC	10	Swanton (76)
OTC	loss	Symbol Technologies (23)
OTC	51	Tandem Computers** (4)
OTC	51	Tandon (5)
OTC	15	Team (68)
OTC	41	Telecom Equipment* (89)
OTC	18	Tellabs (36)
OTC	35	Texas Energies (44)
OTC	7	Thousand Trails* (19)
OTC	30	Tomlinson Oil** (30)
OTC	11	Transnet (45)
OTC	29	Triad Systems* (40)
OTC	46	Volunteer Capital** (51)
AMEX	32	Wainoco Oil** (100)
OTC	16	Wespercorp* (31)

*1980 INC. 100 **1979/1980 INC. 100 OTC - Over-the-counter AMEX - American Stock Exchange NYSE - New York Stock Exchange
P/E Ratio - Price as of February 27, 1981 divided by latest 12-month earnings

How the INC. 100 are selected

To be included in the INC. 100, each company must meet these criteria:

1. The company is an independent, publicly held corporation in a manufacturing, mining, or service industry. Utilities, banks, insurance companies, and other financial institutions are excluded.
2. The company's sales or revenues were less than $25 million in 1976.
3. The company shows a sales/revenues history of at least five years, with a demonstrated increase in its fiscal 1980 closing figure. Firms showing growth in the 1976-80 base period but a sales decline in the last year are excluded.

Sales and income figures were first gathered from 10-Ks, prospectuses, annual reports, and various data bases and directories. Additional information was collected from stock reports, trade magazines, and general business publications. By applying the three criteria above, as well as a five-year growth rate of at least 400%, the number of companies that potentially qualified for listing was pared from 8,600 to less than 500. Telephone interviews were conducted with corporate executives to verify the figures and an editorial team led by senior editor Bradford Ketchum, Jr., then selected the 1981 INC. 100.

Bradford Ketchum, Jr. (left), is a senior editor at INC. He was assisted in preparing this report by research editor Elyse Friedman (center) and editorial assistant Carol Torres (right).

TRACKING THE INC. 100 CAPITAL GAINS:

If you'd bought this portfolio last March, you could have gone on vacation for a year and still made 7% on your money.

Spectacular growth is the hallmark of the INC. 100. Yet it's one thing to rack up impressive revenue gains year after year, and quite another for common stocks of companies that are often thinly capitalized and sometimes chancy to show similar growth. To determine how this year's INC. 100 fared in the ultimate test of the market—profit to public investors—INC.'s editors tabulated the ups and downs of the stock prices for a full year of the companies on the list.

The gain or loss for each company was calculated as closely as possible for the 12-month period beginning March 10, 1980 and ending March 10, 1981, arbitrary dates dictated solely by magazine deadlines. Ninety-nine of the companies in this year's INC. 100 are represented in the results. (One company, Sterling Pipe & Supply, had not yet traded as of the cut-off date.) Stock splits and stock dividends were noted and taken into account in adjusting fully diluted prices per share. Where possible, prices were determined by using either the over-the-counter bids on both dates for stocks listed on the NASDAQ quotation system, or the closing prices on each date for stocks listed on the New York, American, or Pacific Exchanges. In the case of 16 companies, the opening price was the initial offering price on the first day traded. Six O-T-C companies on the list were traded outside NASDAQ; their markets, reported here on a "best available quote" basis, were exceptionally thin and the stocks were infrequently traded. Calculations for cash dividends and brokerage fees were not included. And finally, net gains and losses were rounded off to the nearest whole dollar, as was the percentage increase of the group.

The happy results of all this are shown in the accompanying graph. Our unweighted INC. 100 index, extracted simply from the destiny of $100 invested in each stock on opening day, outstripped the gain of the Dow Jones Industrial Average by a factor of 4, the Standard Poor's 500 by 3.5, the American Stock Exchange Index by 2.8, and doubled the gain posted by the NASDAQ Composite over the same period. Impressive as it is, this performance was dulled somewhat by the number of stocks on the list that went public considerably later than March 10, 1980 (see footnotes) and hence for our purposes did not enjoy a full season in the stock market sun.

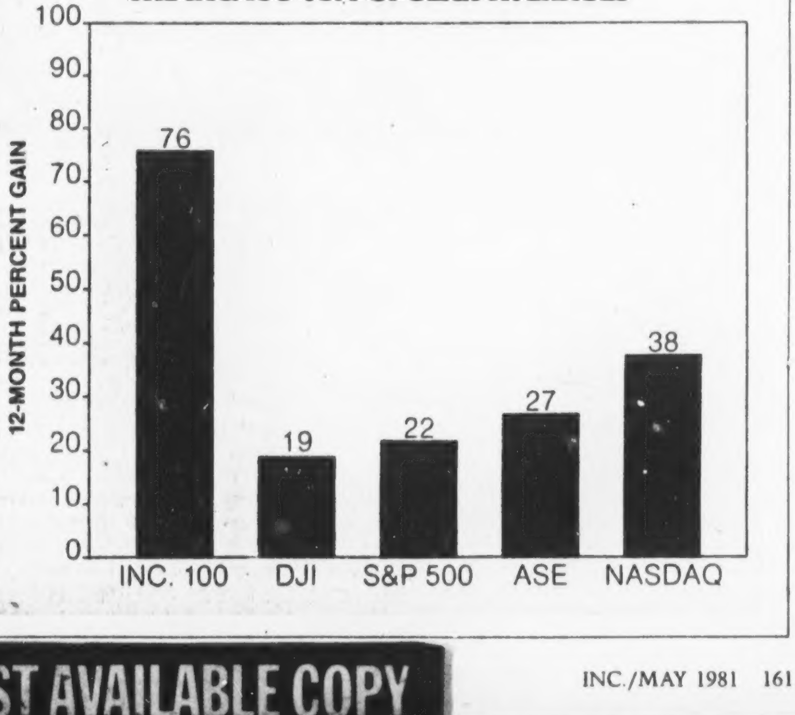
RELATIVE MARKET PERFORMANCE OF THE INC. 100

	3/10/80	3/10/81	%Gain
INC	100	176	76
Dow Jones Industrials	818.94	972.66	19
Standard & Poor's 500	106.51	130.46	22
American Exchange Index	265.40	336.94	27
NASDAQ Industrials	143.75	199.03	38

Left on its own for a year, a $9,900 investment in the INC. 100 would have returned $17,401, a larger increment than all but those of the most aggressively managed go-go funds. Had the list been supervised, with an astute manager buying low and selling high according to the book, the outcome could well have been spectacular. For example, Cray Research peaked at 48½ before falling back to its March 10, 1981 close of 32⅝. Prime Computer could have been sold at its top of 41⅜ rather than our arbitrary sale at 23¾. Auto-trol Technology soared as high as 61½ before its decline to 31½. Imaginatively handled, these issues and many others on the list clearly would have brought even higher profits to the investor.

A large fraction of the companies—84 of the 99—are traded over-the-counter. This fact was predictable, since their small capitalizations and short business histories often do not meet NYSE and Amex listing criteria. But it also suggests that the briskest capital gains action is in O-T-C equities, a view borne out by the strong relative performance of the NASDAQ Index itself. This situ-

THE INC. 100 VS. POPULAR AVERAGES



BEST AVAILABLE COPY

INVESTING *(from page 161)*

ation, too, ought not to be surprising. The past two years have seen an unprecedented leap in venture capital investment, reflecting 1978's lowering of capital gains taxation. As a result, the O-T-C market has been and continues to be seeded with well-launched, well-funded young companies, some of which, like the six on this list, end up as NYSE veterans even while still qualifying for INC. 100 inclusion.

A final observation that may come as a revelation is that not all of the best profits came in "hot" industries, such as energy and electronics, generally favored by Wall Street during the 12-month period. Indeed, the INC. 100 list is laced with "ordinary" businesses whose stock performances far outstripped many a glamorous portfolio darling.□

INC. 100 STOCK MARKET PERFORMANCE

1981 INC. 100 Rank	Company	Stock Splits/ Stock Dividends	Bid/Close 3/10/80	Bid/Close 3/10/81	12-month Value of $100 Invested
1	**Cobb Resources**		11½	13¼	115
2	**DSI**		7	5½	79
3	**Gulf Energy**		1¼	2 5/16	185
4	**Tandem Computers**	split 2 1, 7/18/80	22⅞	66¼	289
5	**Tandon**		16(a)	17½	109
6	**Electro-Biology**		10(a)	22½	225
7	**Cray Research**(N)	split 3 1, 12/19/80	15½	32⅝	210
8	**Network Systems**		18(b)	17⅛	95
9	**NBI**	split 3 1, 3/10/81	12¼	23	188
10	**Cado Systems**		20¾	32	154
11	**Seal Fleet**		4¾	5¾	121
12	**Nutri/System**		19(c)	19¾	104
13	**Printronix**		19½	24½	126
14	**Intelligent Systems**		16(d)	16¼	102
15	**Creative Foods**(O)		1¾	1¼	71
16	**Optel**	recapitalized 1 8, 11/30/80	6	6	100
17	**Saxon Oil**		25(b)	41½	166
18	**Bio-Medical Sciences**		¾	1 13/16	242
19	**Thousand Trails**	10% stock dividend, 6/30/80	5.91	11¼	190
20	**RSI**		3⅝	2	55
21	**Sterling Oil of Oklahoma**		¾	1¾	233
22	**DPF**(N)		6⅛	8½	138
23	**Symbol Technologies**		5¼	9¼	176
25	**Silicon Systems**		11(c)	9⅝	88
26	**Dimis**		6¾(e)	7½	111
27	**Air Florida System**		9⅜	11⅞	127
28	**Magnetic Head**(O)		¼	⅜	130
29	**Nike**		22(d)	17½	80
30	**Tomlinson Oil**	50% stock dividend, 9/30/80	11.58	10⅜	89
31	**Wespercorp**		10	11¾	118
32	**FSC**		4¼	3¼	76
33	**Billings**		10	8½	85
34	**Amarco Resources**	recapitalized 1 5, 5/20/80	6.09	5½	90
35	**Reeves Communications**	50% stock dividend, 10/30/80	10.66	32½	305
36	**Tellabs**		20(h)	23¾	119
37	**Pacer Technology & Resources**		2 11/16	3⅛	116
38	**Dysan**		13½(c)	17	126
39	**Polaris Resources**		1 1/16	1	94
40	**Triad Systems**		20¾	28¼	136
41	**Golden Oil**		3½	3⅞	111
42	**Chemold**(O)		¼	1	400
43	**SafeCard Services**	100% stock dividend, 10/23/80	4⅞	21¾	446
44	**Texas Energies**		9¼(f)	9½	103
45	**Transnet**		3	4⅛	136
46	**Floating Point Systems**		17	29	171
47	**Electromedics**(O)		⅜	1¾	538
48	**Nuclear Pharmacy**		5½	7 5/16	133
49	**Sci Med Life Systems**		8¼	9½	115
50	**Prime Computer**(N)	50% stock dividend, 4/4/80, 50% stock dividend, 12/19/80	12.4	26¾	216
51	**Volunteer Capital**		4½	6⅜	141
52	**Nord Resources**	10% stock dividend, 3/4/80	15.23	17½	115
53	**Econo-Therm Energy Systems**(O)		1¼	3⅛	250
54	**Shopsmith**		7½	10	133
55	**Intermedics**	3 2 split, 8/28/80	20¾	24⅞	120
56	**Petroleum Equipment Tools**		27	51¾	192
57	**Commodore**(A)		2¼	2⅝	117
58	**Rolm**(N)	2 1 split, 8/22/80	21	37¾	180
59	**Data Terminal Systems**(N)		27¾	13	47
60	**Hurco Manufacturing**(O)		7½	20	267
61	**Acton**(A)	5 4 split, 12/15/80	10.2	17½	172
62	**Compact Video Systems**		12⅜	19½	158
63	**M.D.C.**	20% stock dividend, 4/29/80	1.04	3⅞	373
64	**Inter-Tel**		12½(a)	21¾	174
65	**Quality Care**		7⅜	4⅞	67
66	**Minnetonka**	2 1 split, 8/22/80, 3 1 split, 2/12/81	2.27	13½	595
67	**Petrominerals**(P)		3	5¾	192
68	**Team**		15(g)	26¼	175
69	**Staodynamics**		2	4	200
70	**Data Access Systems**(A)	10% stock dividend, 1/19/81	10.57	14⅞	141
71	**Chem-Nuclear Systems**	3 2 split, 12/1/80	13½	31	230
72	**Nucorp Energy**		13¾	22 11/16	165
73	**Chuck Barris Productions**		5¾	3	52
74	**Health Extension Services**	100% stock dividend, 9/15/80	2⅝	12½	476
75	**Interface Mechanisms**		7¼	17⅛	236
76	**Swanton**	10% stock dividend, 6/2/80	14.55	22	151
77	**Newport Pharmaceuticals**		7½	12⅛	162
78	**CGA Computer Associates**	50% stock dividend, 11/28/80	2.67	12¾	478
79	**Rampart General**		2	1⅛	56
80	**Mentor**		4	5½	138
81	**Ind'l Solid State Controls**		14¾(c)	19½	132
82	**Auto-Trol Technology**		29¼	31½	108
83	**Coradian**	50% stock dividend, 9/5/80	10.67	10¼	96
84	**Key Pharmaceuticals**(A)	3 2 split, 10/3/80	10.42	26⅝	256
85	**Seneca Oil**		9	17⅞	199
86	**Dyco Petroleum**(N)	3 2 split, 11/26/80	13½	31	230
87	**Chomerics**	3 2 split, 6/20/80	19.33	15¼	79
88	**Paradyne**(A)	4 3 split, 3/26/80, 100% stock dividend, 11/26/80	11⅛	33¼	278
89	**Telecom Equipment**		11½	20	174
90	**Andersen 2000**	2 1 split, 10/20/80	4½	17⅛	381
91	**Petro-Lewis**(A)	10% stock dividend, 3/14/80	17.73	24⅛	136
92	**Kratos**	50% stock dividend, 3/4/80	7	17¾	253
93	**Adac Laboratories**		10½	14¼	136
94	**Flight Transportation**	5% stock dividend, 9/19/80	4.05	6½	161
95	**Matrix**(A)	4 3 split, 4/25/80	19.22	33¼	273
96	**Presidio Oil**	5 4 split, 12/29/80	6.7	9¾	146
97	**C3**		32(d)	31¼	98
98	**Kinder-Care Learning Centers**	5 4 split, 12/30/80	8.8	15	171
99	**Delhi International Oil**(A)	3 2 split, 2/28/80	26¼	84¼	321
100	**Wainoco Oil**(A)		29¼	25¾	88

All stocks traded O-T-C unless otherwise noted. (N)New York Stock Exchange (A)American Stock Exchange (P)Pacific Stock Exchange (O)Non-NASDAQ O-T-C, best available quote (a)First offered 2/81 (b)First offered 11/80 (c)First offered 1/81 (d)First offered 12/80 (e)First offered 3/80 (f)Common/warrant units first offered 12/80 (g)First offered 10/80 (h)First offered 7/80

BEST AVAILABLE COPY

NOTE

ONLY THE FOLLOWING PAGES OF THIS

PUBLICATION HAVE BEEN FILMED

Cover 1, p. 3, 16, 19, 37-

42, 126, 128, 132, 135.

JUNE 1981
$2.00

5/20/81 C 4687 -1

INC. 100 Profile: Tandem

SHOOTING FOR A FAIL-SAFE GROWTH PLAN

Special Report

THE INC. SECOND 100

1981 Tax Cut

WHAT'S IN IT FOR SMALL BUSINESS?

Interest Rates

BOYD HILL FIGHTS TO SAVE HIS COMPANY

Tandem's President
James Treybig

330004 NLL 4520E092 344D MAR82
JOSEPH MC NALLY
CONGRESS INF SERV 06
4520 E-W HWY
WASHINGTON DC 20014
"71486"02959"

BEST AVAILABLE COPY

JUNE 1981

CONTENTS

VOL.3,NO.6

DEPARTMENTS

From the editor 7

Letters 11

Speaking out 12
Banks to small business: Who are you?

Economic issues 16
Is the economy strangled by our laws?

People & innovations 20
Pepsi veteran Walter Mack pops up again with King-Cola; Window maker Hodge thinks his future is clear; Centenarian says work is key to longevity; They built a company with spare parts.

News & trends 24
Businessman starts up a small business bank; The computer business as a "cottage industry"; Survey casts doubt on future jobs tax credit; Eager B-schoolers not first choice for small businesses; Public TV takes a look at private enterprise.

Washington update 32

Time out 121
Soaring over the Sierras in a two-seater plane.

Mind & body 124
Defusing the midlife time bomb.

Investing in growth companies 126
Fast growth does pay off.

New issues 130

Venture capital 132
Investment dollars fill venture coffers to record heights.

Street talk 136
The price/earnings ratio: time for a second look.

Taxes 139

The law 140
How to keep your company out of court.

Marketing 142
Get to know your customers by using demographics.

Ideas you can use 146

Books 153
Making economics easy to understand.

The buck stops here 156
How taxes should be cut.

Cover photo
Christopher Springman

Tandem Computer's president James Treybig (right) with senior vice-presidents Michael Green (left) and Robert Marshall

Tandem has a fail-safe plan for growth
If Jim Treybig has his way, his computer company will get bigger without losing its entrepreneurial style. **46**

The INC. Second 100
The runners-up to the 1981 INC. 100 are more profitable, more productive, and more stable. **37**

The 1981 tax cut: a tilt to big business?
President Reagan's tax reform plans still leave small business at a disadvantage. **56**

A flood of tax proposals: A flood of opportunities **64**

Dollars and cents about 10-5-3 **66**

Toss out useless paperwork
That's the advice of a manager who devised eight rules for streamlining office systems. **70**

You can't turn your back on selling
William Kelly outperforms every other salesman in his company. He's also the boss. **75**

Boyd Hill keeps hammering away
His construction materials company is losing money, but he won't give up without a hard fight. **80**

How to avoid the pitfalls of computer contracts
If your hardware or software package doesn't live up to expectations, you may have a legal problem. **91**

Are your salaries competitive?
For clerks to controllers, here's where to find out the going rate. **94**

COPYRIGHT © 1981 BY INC. PUBLISHING COMPANY. All rights reserved. INC. is published monthly by Inc. Publishing Company. ISSN: 0162-8968. Editorial and executive offices at 38 Commercial Wharf, Boston, MA 02110. Telephone (617) 227-4700. Bernard A. Goldhirsh, President; John W. Carlson, Vice-President; Norman Raben, Vice-President. ☐ **SUBSCRIPTION:** One-year subscription rate for U.S. and possessions, $18.00; Canada, $30.00. All other countries, one-year subscription rate $45.00, cash orders only, payable in U.S. currency. Forms 3579 and all subscription correspondence should be addressed to INC. Magazine, P.O. Box 2538, Boulder, CO 80322. Please allow at least six weeks for change of address. Include your old address as well as new, and enclose if possible an address label from a recent issue. ☐ Controlled circulation postage paid at Boston, Mass., and at additional mailing offices. Material in this publication may not be stored or reproduced in any form without permission. Requests for permission should be directed to Rights and Permissions Editor, INC., 38 Commercial Wharf, Boston, MA 02110.

IS THE ECONOMY STRANGLED BY OUR LAWS?

One of the greatest barriers to productivity is our tendency to sue one another.

By Lester C. Thurow

Not long ago, an executive of Nippon Steel, the world's largest and most efficient steel company, gave a speech to a group of businessmen I was with in Japan. He started with the observation that Japan has one lawyer for every 10,000 people, while the United States has one lawyer for every 450 people. No wonder Japan is more productive, he said, only half joking.

The Japanese executive didn't realize that he had placed his finger on a real issue in the United States. The American legal system ties up a large part of our labor force—600,000 people at last count—but its burden on our productivity goes well beyond that. America has the most cumbersome adversary legal system in the world.

Among industrial countries, America may have the fewest economic rules and regulations. Try to fire a worker anywhere else in the industrial world, for example. It's easier here. Japanese automobiles and steel mills must meet higher standards for emissions affecting air quality. And almost any factory in northern Europe has tougher standards on industrial workplace safety.

But the delays, uncertainties, and great expense of the American legal system weigh heavily on American industry. Economically, America can't afford to live with its current legal system.

Think about nuclear power projects, for example. If it is completed on its present schedule, which is highly unlikely, the Seabrook nuclear plant north of Boston will have cost $3.12 billion. But only $2.1 billion of that is construction costs. The other $1 billion is interest charges incurred during the course of constructing—or more accurately, not constructing.

In America, it now takes 12 years to build the average nuclear power plant, and the time is increasing. In Japan it takes 6 years, and the time is decreasing. The difference is almost entirely due to legal delays. And the result is cheaper power and a cost advantage for Japanese industries.

The issue here is not whether nuclear plants should or should not be constructed. The issue is whether we should engage in expensive, lengthy legal battles about building them. The fights only raise costs, and in the end those costs will be paid by businesses and consumers.

The extreme form of the problem can be seen in the MX missile debate. Despite a widespread feeling that the country needed better military preparedness, the most conservative part of the country—eastern Nevada and western Utah—balked at locating the MX missile sites there. Claiming that the social and environmental damage would be too great, a tiny percentage of the population could have imposed enough legal delays to kill the MX plan—whether or not it was the best plan for national security.

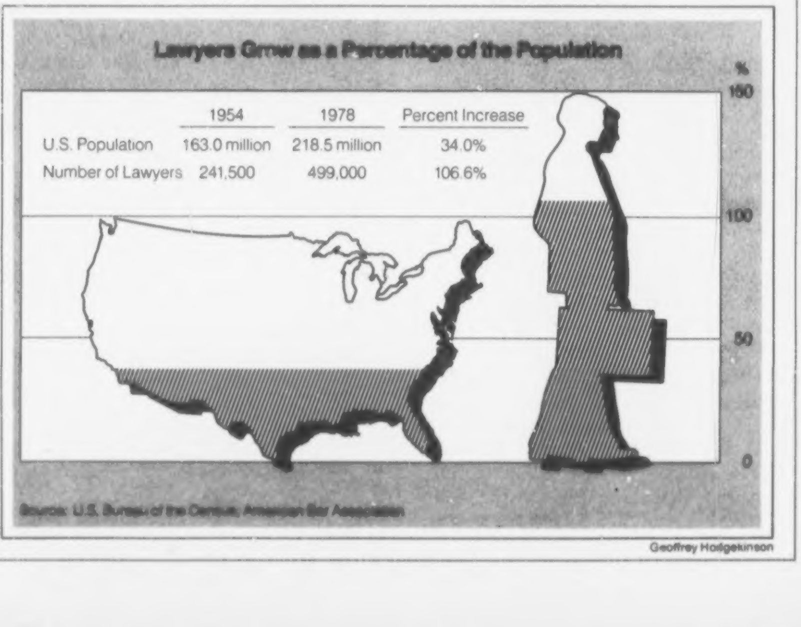
If our society can't find a place to put a strategic weapon because of the threat of legal action, how can it hope to locate less popular projects such as dirty industrial operations—coal gasification plants, for example? For these the opposition will be even more numerous and intense.

Anyone with $200,000 for legal fees can delay any major industrial project for at least five years. The delays drive up legal expenses and the interest costs incurred during construction, but, more important, they dramatically increase uncertainty. No one knows when or if a project will be completed or how much it will cost. Is it any wonder that in the 1970s we quit building major new industrial facilities?

The problems caused by legal delays are often much worse for small businesses than for large ones. I recently sat on the board of directors of a small firm that was being acquired. When a third party intervened, the legal fees and delays ate up a significant part of the gains everyone had hoped to make from the merger.

The Reagan Administration's solution to the problem of delays caused by regulatory disputes is to put people who will do less regulating in charge of the agencies. The plan is unlikely to work. The groups who favor the goals of the regulatory agencies will go to court to have existing laws enforced. In the end, some judge could wind up run-

Lester Thurow, a professor of economics and management at the Massachusetts Institute of Technology and the author of The Zero-Sum Society, *is a contributing editor to* INC.



Lawyers Grow as a Percentage of the Population

	1954	1978	Percent Increase
U.S. Population	163.0 million	218.5 million	34.0%
Number of Lawyers	241,500	499,000	106.6%

Source: U.S. Bureau of the Census, American Bar Association

Geoffrey Hodgekinson

ECONOMIC ISSUES *(from page 16)*

ning every industrial facility in the United States.

It is of course possible to repeal the laws that prescribe a clean environment and a safe workplace, but the legislative process of repeal is a time-consuming use of enormous political capital. Anyway, no one really wants a dirty environment or industrial accidents. What we do want is an economy that can compete with the Germans and the Japanese.

To reach our goal—a strong, productive economy—we need to develop nonlegal, nonadversary procedures for resolving disputes. Any such procedure must have four characteristics: speed, certainty, low cost, and finality.

In labor relations we have for years used mediation, arbitration, fact-finding, and other techniques to keep disputes both off the streets and out of the courts. The successes and failures of this process point out the direction in which we need to move.

Instead of relying on antitrust laws to produce a competitive economy, we should remove trade protection, such as that now being offered to the steel industry. This would produce more competition in the steel industry than antitrust legislation has ever brought about.

Instead of writing detailed safety rules, we could prescribe stiff financial penalties—a large fine—for every injury or death. This would give firms a strong incentive to operate safely, but allow them the freedom to determine the best ways of doing so.

We compensate coal miners for the risk of going underground, so perhaps we should settle the nuclear power dispute by compensating people for the risks of living near a nuclear plant. What would happen to opposition to nuclear power projects if those living within one mile of a plant were paid $200 a month, those between one and three miles $100 a month, and those between three and six miles $50 a month?

We could invent many ways to replace or modify our current legal system. But part of the problem is not the system, but ourselves. The Japanese environmental agency is not popular, but it has never been sued, by either industrial or environmental groups, because the Japanese have exercised restraint. In America we sue first and think later.

America is a litigious society, and litigious societies are not highly productive societies. We have to understand that we will only become poorer if we keep suing one another. ☐

Turn in, America!

Turn in at a Best Western near you for your free copy of the 1981 Best Western Road Atlas and Travel Guide, or send your name, address and $3.00 for handling and shipping to:
Travel Guide, Best Western International, P.O. Box 13410,
Phoenix, AZ 85004.
Make reservations at any Best Western; see your travel agent or consult your Yellow Pages for a listing of our 24-hour toll-free numbers.

Places to stay, people you'll like!

2,734 Places in 1,947 cities worldwide

United States, Aruba, Puerto Rico, Virgin Islands, Andorra, Australia, Austria, Canada, Denmark, Finland, France, Great Britain, Ireland, Liechtenstein, Luxembourg, Mexico, New Zealand, Spain, Sweden, Switzerland, West Germany
Best Western 1981
Road Atlas & Travel Guide
Turn in, America!
People and places you'll like... worldwide!
Best Western

Mini Power, Micro Price!

New CADO C.A.T. II *Desktop*
Multi-Terminal Business
Computer/Word Processor

Do your payables and receivables... type letters and print reports... all at the same time! CADO'S Data & Word Processor, TWX & Telex communications, and Just Ask™ inquiry system do it all. Off-the-shelf software, self-teaching tutorials & Mini-Winchester high capacity disk drives are available, of course. Write now for free color brochure.

CADO SYSTEMS
CADO Systems Corporation
2771 Toledo Street • Torrance, CA 90503 • (213) 320-9660
Please send free color brochure on CADO Information Systems!
Name
Title
Company
Address
City
State
Zip
I-6

Circle No. 72 on Reader Service Card.

The Inc. Second 100

The runners up to the 1981 INC. 100 are more profitable, more productive, and more stable.

By Bradford W. Ketchum, Jr.

BEST AVAILABLE COPY

One might expect the roster of the Second 100 fastest-growing smaller corporations in the United States to be sprinkled with computer producers, fast-food outfits, and perhaps a genetic engineering firm or two. Not so. In fact, there is not a single mainframe-computer maker, hamburger stand, or gene splicer among the runners-up to the top 100 companies (INC., May, page 51).

Anchored somewhere between the Goliaths of the computer field and the infant crop of high-flying bioengineering firms, the Second 100 is a fast-paced contingent of high-tech, health care, and natural resource companies. As fast-growth enterprises, the Second 100 take a backseat to no one in terms of technological breakthroughs and innovative marketing. Among them are companies that produce lasers, tomographic scanners, and radiochemicals, as well as

INC. Second 100

Rank '81	Rank '80	Company	Sales growth '76-'80 % increase	'80 sales ($000)	'76 sales ($000)	'80 net income as % of sales	No. of employees '80
101	☐	**Worldwide Energy** (Denver)	505%	$ 43,221	$ 7,147	7.5%	125
102	24	**First Artists Production** (Sherman Oaks, Calif.)	497	27,119	4,359	13.2	185
103	☐	**Control Laser** (Orlando)	492	13,331	2,250	9.2	500
104	☐	**Microdyne** (Ocala, Fla.)	491	23,715	4,011	13.5	170
105	☐	**Autodynamics** (Neptune, N.J.)	486	7,969	1,359	3.9	174
106	40	**Cullinane Database Systems** (Westwood, Mass.)	483	20,009	3,433	12.0	247
107	☐	**North American Watch** (New York)	482	46,975	8,077	7.6	200
108	65	**Heritage Communications** (Des Moines)	478	25,079	4,337	7.1	1,500
109	☐	**Staff Builders** (New York)	478	55,223	9,556	3.4	300
110	☐	**Oxoco** (Houston)	476	11,917	2,069	12.9	86
111	93	**Comshare** (Ann Arbor)	468	78,208	13,758	5.3	1,282
112	☐	**Mediscience** (New York)	467	1,650	291	loss	20
113	☐	**Ramtek** (Santa Clara, Calif.)	461	25,149	4,485	4.6	376
114	☐	**Emons Industries** (York, Pa.)	459	16,647	2,980	23.9	138
115	☐	**General Devices** (Norristown, Pa.)	455	35,227	6,351	1.9	968
116	96	**Anacomp** (Carmel, Ind.)	452	70,996	12,851	6.8	1,900
117	☐	**AM Cable TV Industries** (Quakertown, Pa.)	448	5,297	967	8.0	329
118	89	**CPT** (Hopkins, Minn.)	446	59,750	10,491	10.2	857
119	☐	**Federal Resources** (Salt Lake City)	444	25,521	4,690	12.4	115
120	☐	**Evans & Sutherland Computer** (Salt Lake City)	439	34,493	6,400	17.8	453
121	☐	**Service Fracturing** (Pampa, Tex.)	436	9,065	1,692	11.8	121
122	☐	**Analysts International** (Edina, Minn.)	433	20,050	3,763	1.7	550
123	☐	**Gerber Scientific** (South Windsor, Conn.)	430	76,487	14,434	7.7	1,200
124	☐	**Phoenix Materials** (Kittanning, Pa.)	428	3,222	610	15.4	85
125	☐	**MGF Oil** (Midland, Tex.)	421	73,639	14,137	9.5	1,056
126	☐	**HCC Industries** (Sherman Oaks, Calif.)	417	16,249	3,145	8.9	325
127	☐	**Norstan** (Plymouth, Minn.)	416	17,528	3,398	7.1	315
128	85	**Robinson-Nugent** (New Albany, Ind.)	413	28,845	5,628	10.5	410
129	☐	**Housing Systems** (Atlanta)	412	1,582	309	11.0	22
130	☐	**HEI** (Chaska, Minn.)	410	6,358	1,247	9.8	201
131	69	**Computer Task Group** (Buffalo)	408	24,935	4,910	4.0	917
132	☐	**Bolar Pharmaceutical** (Copiague, N.Y.)	402	11,808	2,352	17.7	100
133	☐	**Power Conversion** (Mount Vernon, N.Y.)	400	4,286	858	3.4	220
134	☐	**Thompson Medical** (New York)	399	95,255	19,086	10.5	93
135	☐	**Applicon** (Burlington, Mass.)	399	50,776	10,183	11.7	785
136	☐	**Tylan** (Torrance, Calif.)	394	17,100	3,461	16.6	200
137	50	**Dranetz Engineering Laboratories** (Edison, N.J.)	393	15,326	3,111	13.6	240
138	☐	**Sandgate** (Long Island City)	389	40,486	8,272	13.2	77
139	36	**Kenai** (New York)	389	59,432	12,146	5.1	1,500
140	☐	**SEI** (Wayne, Pa.)	387	23,060	4,734	6.7	346
141	☐	**Harken Oil & Gas** (Abilene, Tex.)	386	3,468	714	loss	75
142	☐	**Key Energy Enterprises** (Tampa)	385	69,916	14,403	2.1	200
143	☐	**Sigmaform** (Santa Clara, Calif.)	382	12,133	2,517	10.3	140
144	☐	**Comserv** (Mendota Heights, Minn.)	378	10,704	2,240	8.4	250
145	☐	**AES Technology Systems** (Elk Grove Village, Ill.)	376	12,061	2,535	loss	350
146	56	**American Management Systems** (Arlington, Va.)	375	58,505	12,321	3.7	970
147	☐	**Discovery Oil** (Los Angeles)	374	3,073	648	loss	10
148	42	**Lear Petroleum** (Dallas)	369	89,855	19,171	7.0	209
149	☐	**Impell** (San Francisco)	366	51,919	11,135	13.8	770
150	☐	**Transducer Systems** (Willow Grove, Pa.)	364	4,834	1,041	9.1	65

Letterform pg 37 by Bill Carroll

firms that manufacture batteries, garbage trucks, and coin-operated games. There are specialists in night vision engineering, mobile medical services, and cable TV, as well as an airline and a boxcar builder that operates its own railroad. The majority of the Second 100 are manufacturers, although the group also includes 33 service firms and a dozen oil and gas producers.

In the annals of the Second 100 as a group, the past five years represent a period of spectacular performance. Aggregate sales catapulted by 364%, while net earnings exhibit an even more impressive gain of 745%. Thirty-three of the companies on the list more than quintupled their sales during the last five years, while 61 quadrupled their volumes. Such performance translates to compound average annual growth rates ranging from 41% to 57%.

Like the front-running top 100 fastest-growing companies, the Second 100 marched into the 1980s at a meteoric pace. Last year alone, their sales jumped by 50%, only two points behind the 52% gain registered by the INC. 100. Two runner-up companies in particular—Monolithic Memories (No. 192) and Omnimedical (No. 175)—turned in outstanding performances in 1980. Both firms more than doubled their sales, registering respective spurts of 111% and 113%, with bottom-line results that were even more spectacular. Monolithic Memories, in fact, ranks as No. 1 among the Second 100 in terms of turnaround on the profit and loss statement. From red ink of close to $1 million in 1979, the California electronics manufacturer rebounded to $9.6 million in earnings last year. Only slightly less outstanding is the 726% gain in profit posted by Omnimedical, a California medical diagnostic firm.

As a group, the Second 100 rang up total sales of $3.4 billion last year, boosting their net earnings by 47.5% in the process. The burgeoning growth rates are even more impressive, of course, when compared with the figures of five years ago. It is in the comparison of 1976 and 1980 figures that the differences between the Second 100 and the top 100 fastest-growing smaller companies begin to emerge. While both groups turned in similarly outstanding performances last year in terms of percentage gains in sales and earnings, the dollar signs and growth rates of the past five years reveal subtle contrasts between the 100 runners-up and the top flight.

As the following table indicates, the Second 100 enterprises were far ahead of today's 100 front-runners five years ago:

The Second 100		**The INC. 100**
'76 Sales	$725.6 mil.	$388.1 mil.
'80 Sales	3.4 bil.	5.0 bil.
% Change	+364%	+1,188%
'76 Income	$ 30.1 mil.	$ 1.3 mil.
'80 Income	254.2 mil.	347.8 mil.
% Change	+745%	+26,208%

What happened to the Second 100's broader sales base and thirtyfold edge in profits? The answer, which is only partially reflected in the above figures, rests in the distinction between *emerging* growth companies and *maturing* growth companies. In effect, the Second 100 firms are the latter category's leaders. As such, they share these basic characteristics in contrast to

Acquisitions '76-'80	Date inc.	Business description
Yes	1971	Oil & gas exploration, production
Yes	1969	Mfr. men's shirts; movie producer/distributor
Yes	1967	Mfr. telemetry receivers & signal generators
Yes	1965	Mfr. industrial laser systems
No	1966	Mfr. process training simulators
Yes	1968	Designs/markets database systems
No	1961	Importer/distributor Swiss watches
Yes	1971	Operates cable TV systems; display advertising
No	1961	Provider licensed nursing personnel
Yes	1972	Oil & gas exploration; mfr. compressors
Yes	1966	International computer services
Yes	1959	Mfr. bio- & radiochemicals for medical research
No	1971	Mfr. computer graphic displays
No	1955	Builds/leases railroad freight cars; owns/operates railroad
Yes	1953	Contract engineering services
Yes	1968	Computer & data processing services
Yes	1974	Constructs aerial networks for cable TV systems
No	1971	Mfr. word processing machines
Yes	1955	Precious metals mining
No	1968	Mfr. interactive graphics systems for pilot simulation training
Yes	1973	Oilfield services
No	1966	Computer & data processing services
No	1948	Mfr. computer-aided design & manufacturing systems
Yes	1968	Mfr. silicone wafers, chemical vapor deposition systems
Yes	1970	Oil & gas exploration
Yes	1971	Mfr. electrical connectors & terminals
No	1961	Mfr. prec. gears; sells, leases & services private telephone sys.
No	1956	Mfr. electromechanical components
Yes	1970	Develops/manages multi-family residential properties
No	1968	Mfr. optoelectronic components
Yes	1966	Data processing services
No	1960	Mfr. generic drugs & vitamins
No	1970	Mfr. lithium cells & batteries
No	1954	Mfr. nonprescription health care products
No	1969	Mfr. interactive graphics sys. for computer-aided design & mfg.
No	1954	Mfr. production equipment for semiconductor industry
No	1962	Mfr. electronic instruments & instrumentation
Yes	1955	Leases cars & trucks; Ford dealership
Yes	1973	Oil & gas exploration; contract drilling; oilfield equip. supplier
No	1974	Computerized data processing services for banks
Yes	1973	Oil & gas exploration, production
Yes	1968	Sells gasoline & diesel fuel; rents med. equip.; drug wholesaler
No	1963	Mfr. plastic tubing & molded shapes
Yes	1968	Computer & data processing services
No	1971	Mfr. customized copying sys., coin-operated games & devices
Yes	1970	Computer & data processing services
No	1964	Oil & gas exploration
Yes	1968	Oil & gas exploration, production
Yes	1977	Engineering & management services for energy industry
No	1973	Mfr. electromechanical transducers, motors & encoders

the top 100:

1. They are older. With the exception of a couple of companies that were barely generating revenues prior to 1976, the Second 100 are a more mature lot. Seventy-five have been in business more than 10 years, versus 59 among the INC. 100 that have passed the 10-year mark. Perhaps even more significant, however, is the fact that 24 of the runners-up are alumni of last year's top 100 and 11 are veterans of consecutive INC. 100 rankings. In short, almost a quarter of the Second 100 have already discovered that meteoric growth

> The majority of the INC. Second 100 are manufacturers.

INC. Second 100 *(continued)*

Rank '81	Rank '80	Company	Sales growth '76-'80 % increase	'80 sales ($000)	'76 sales ($000)	'80 net income as % of sales	No. of employees '80
151	80	**United States Surgical** (Norwalk, Conn.)	361%	$ 86,214	$18,710	9.2%	1,376
152	☐	**TIE/Communications** (Shelton, Conn.)	360	59,806	12,988	5.6	400
153	64	**Chessco Industries** (Fairfield, Conn.)	359	16,260	3,540	0.1	150
154	☐	**Duralith** (Millville, N.J.)	358	11,365	2,481	7.7	340
155	☐	**Standard Microsystems** (Hauppauge, N.Y.)	355	14,903	3,272	15.5	285
156	47	**Siltec** (Menlo Park, Calif.)	355	57,120	12,547	6.0	850
157	☐	**CACI** (Arlington, Va.)	353	34,728	7,674	3.9	885
158	98	**National Micronetics** (Kingston, N.Y.)	352	19,824	4,388	loss	854
159	☐	**Dataram** (Cranbury, N.J.)	352	22,105	4,894	14.4	1,213
160	☐	**Air Wisconsin** (Appleton, Wis.)	341	35,672	8,095	12.0	421
161	☐	**Dicomed** (Minneapolis)	341	5,400	1,228	10.4	57
162	☐	**Zentec** (Santa Clara, Calif.)	339	16,500	3,759	9.6	185
163	☐	**Vermont Research** (Springfield, Vt.)	338	16,085	3,672	17.4	223
164	☐	**Brookwood Health Services** (Birmingham)	336	95,575	21,898	4.3	3,000
165	☐	**Beard Oil** (Oklahoma City)	336	21,853	5,011	20.2	60
166	☐	**Data Architects** (Waltham, Mass.)	335	8,560	1,966	4.2	125
167	☐	**Communications Corp. of America** (Dallas)	333	15,851	3,660	3.1	275
168	☐	**E.I.L. Instruments** (Sparks, Md.)	333	20,138	4,650	3.7	325
169	☐	**Materials Research** (Orangeburg, N.Y.)	333	71,430	16,510	6.1	750
170	☐	**American Agronomics** (Tampa)	332	54,117	12,550	9.7	550
171	82	**PaR Systems** (Shoreview, Minn.)	327	19,296	4,523	9.5	280
172	15	**Salem National** (Winston-Salem)	325	13,089	3,082	loss	90
173	☐	**Nicolet Instrument** (Madison, Wis.)	324	56,173	13,256	7.5	500
174	76	**Penril** (Rockville, Md.)	323	33,334	7,886	5.3	640
175	☐	**Omnimedical** (Paramount, Calif.)	323	13,018	3,080	8.7	425
176	☐	**National Education** (Newport Beach, Calif.)	322	89,251	21,157	4.5	2,460
177	☐	**Pengo Industries** (Fort Worth)	320	78,061	18,572	3.9	400
178	☐	**Verna** (Houston)	318	30,633	7,329	5.5	600
179	☐	**Maxon Industries** (City of Commerce, Calif.)	317	43,045	10,332	loss	628
180	☐	**NSA** (Cherry Hill, N.J.)	316	2,855	686	1.8	88
181	☐	**Cascade Steel Rolling Mills** (McMinnville, Oreg.)	314	64,024	15,471	7.1	450
182	☐	**Analogic** (Wakefield, Mass.)	312	67,010	16,262	9.0	1,175
183	☐	**Systematics General** (Falls Church, Va.)	311	11,300	2,751	5.4	224
184	☐	**Applied Material** (Santa Clara, Calif.)	309	69,278	16,936	9.3	760
185	73	**Data Card** (Minnetonka, Minn.)	308	66,273	16,241	10.6	1,633
186	74	**Berry Industries** (Long Beach)	306	37,797	9,302	6.5	517
187	72	**Verbatim** (Sunnyvale, Calif.)	305	50,126	12,379	2.7	1,495
188	☐	**Cherry Electrical Products** (Waukegan, Ill.)	305	88,025	21,750	8.5	2,200
189	☐	**Sensormatic Electronics** (Deerfield Beach, Fla.)	304	38,864	9,627	15.5	725
190	☐	**Raycomm Industries** (Freehold, N.J.)	303	16,272	4,038	loss	650
191	☐	**Argonaut Energy** (Amarillo)	303	2,707	672	3.8	36
192	☐	**Monolithic Memories** (Sunnyvale, Calif.)	302	77,900	19,385	12.4	2,391
193	☐	**Prairie Producing** (Houston)	302	21,927	5,460	19.4	50
194	☐	**May Petroleum** (Dallas)	301	24,675	6,156	18.3	137
195	☐	**Computer Entry Systems** (Silver Spring, Md.)	296	5,911	1,494	17.0	85
196	75	**Haemonetics** (Braintree, Mass.)	295	19,256	4,871	8.8	435
197	☐	**K-tron International** (Scottsdale, Ariz.)	294	20,965	5,317	8.7	304
198	77	**Survival Technology** (Bethesda, Md.)	294	15,471	3,928	4.2	204
199	☐	**Electrospace Systems** (Richardson, Tex.)	294	33,561	8,525	6.2	949
200	☐	**Kevex** (Foster City, Calif.)	292	17,004	4,335	12.2	265

inevitably collides with the unforgiving limits of geometric progression.

2. They're more profitable. In the aggregate, the Second 100's net income as a percent of sales is 7.7%, versus the top 100's 7.0%. Five years ago, only 23 of the companies among the Second 100 were wrestling with deficits, versus 44 of the top 100 performers. Only 8 of the runners-up closed fiscal 1980 with red ink on their ledgers, compared with 11 among the 100 front-runners. Offsetting the 8 firms that were battling losses at year-end were 20 companies whose earnings soared more than 100% last year.

3. They are more productive. The Second 100 chalks up less total sales volume, but they also maintain leaner payrolls—by more than 33,300 workers. As a yardstick of performance, they average $60,670 in sales per employee, compared with the $56,300 registered by the top 100.

4. They are less volatile. Price-earnings multiples among the INC. 100 average 36, while the Second 100 boast a more palatable average P/E of 22.

5. They are more eastern than western. The western states claim almost half—49—of the top 100 firms. Colorado, for example, is home base for 9 of the fastest-growing companies, while all of New England has only 5. The Second 100, on the other hand, represents just the opposite geography—47 of the companies are based on the East Coast. Colorado claims only 1, while New England boasts 10.

The INC. Second 100 1980 Profile

No. of firms by industry	
Manufacturing	54
Services	33
Mining (including oil & gas)	13
Total sales ($ billion)	$3.4
Percent change (1976-80)	+363.5%
(1979-80)	+50.0%
Total net income ($ million)	$254.2
Percent change (1976-80)	+745%
(1979-80)	+47.5%
Mean sales 1976 ($ million)	$4.8
1980 ($ million)	$23.4
Compound average annual sales growth (1976-80)	
Range	+41%-57%
Mean	+46.7%
Net profit as percent of sales	
Range	0.1%-23.9%
Mean	8.7%
No. acquiring other firms (1976-80)	52
No. incorporated since 1971	25
Total no. of employees	55,429
Average sales per employee	$60,670

6. They are more hunted than hunter. The majority of the INC. 100 and the Second 100 have expanded externally through acquisitions in the past five years. Fifty-eight of the top 100 have absorbed other firms since 1976, while 52 of the runners-up have been active in the acquisition game. Notable examples include Heritage Communications (No. 108), Anacomp (No. 116), and Penril (No. 174), all of which have recently engineered major coups as suitors.

There are two sides of the coin, however, Undoubtedly, there are a number of larger corporations, as yet unidentified, that are

Acquisitions '76-'80	Date inc.	Business description
Yes	1975	Mfr. surgical instruments & medical systems
No	1971	Mfr. key telephone systems & subassemblies
Yes	1969	Mfr. specialty chemicals & production products
No	1946	Mfr. graphic plastics (panels, dials) & membrane switches
No	1971	Mfr. large-scale integrated circuits
Yes	1969	Mfr. silicon ingots & wafers, semiconductor equipment
No	1976	Computer software & information systems design
No	1969	Mfr. recording head products & microelectronic components
Yes	1967	Mfr. memory & peripheral controller products
No	1965	Commercial airline
No	1968	Mfr. input-output devices for color image data processing
No	1973	Mfr. customized intelligent terminal systems
No	1960	Mfr. electronic rotating magnetic memory storage devices
Yes	1967	Owns & manages hospitals and medical centers
No	1969	Oil & gas exploration; chemical waste disposal services
No	1967	Computer & data processing consultants
Yes	1968	Communications equipment sales & service
Yes	1970	Distributes/services panel meters & testers
No	1957	Mfr. high purity metals, metal alloys & ceramics
Yes	1960	Manages orange groves; blends/bottles citrus products
No	1961	Mfr. remotely controlled handling equipment for nuclear plants
No	1968	Leases truck tractors & trailers
Yes	1967	Mfr. digital instruments & graphic plotters
Yes	1968	Mfr. consumer audio sys., modems, test instr. & digital meters
Yes	1971	Mobile medical diagnostic serv.; mfr. tomographic scanners
Yes	1972	Vocational schools & correspondence courses
Yes	1977	Oil & gas well services; mfr. oilfield equipment, explosives
Yes	1975	Contract drilling for oil & gas
Yes	1962	Mfr. refuse collection truck bodies, lift gates, compactor bins
Yes	1968	Data processing consultants
Yes	1967	Mfr. carbon steel bar products
Yes	1967	Mfr. computerized signal processing systems
No	1968	Mfr. tempest terminal equipment; night vision engineering
Yes	1967	Mfr. equip. & materials for makers of semiconductor devices
Yes	1969	Mfr. embossing equipment for plastic cards
Yes	1962	Provides equipment & services to petroleum industry
No	1969	Mfr. magnetic disk storage media
Yes	1953	Mfr. electro-mechanical, electronic & semiconductor products
Yes	1968	Mfr. electronic surveillance systems
No	1968	Support services to makers & users of electronic/medical equip.
No	1972	Oil & gas exploration
No	1969	Mfr. large-scale integrated circuits
No	1964	Oil & gas exploration, production
No	1968	Oil & gas exploration
No	1969	Mfr. optical character reading equipment
No	1971	Mfr. blood processing systems
No	1964	Mfr. digital mass measurement equipment
Yes	1969	Mfr. injection devices, pharmaceutical items
Yes	1970	Mfr. electronic communication & navigation systems
No	1967	Mfr. X-ray energy spectrometer systems & components

scanning the top 100 roster for attractive takeover targets. Six of last year's roster were snapped up in rapid succession by suitors bearing well-known names like M/A-Com, Revlon, and Storage Technology. At midyear 1981, however, all of this year's top 100 smaller growth companies appear to have a firm grasp on their independence. Not so in the case of the Second 100. Four of the runners-up, in fact, will be part of larger corporations by summer's end.

St. Paul-based PaR Systems (No. 171), a veteran of previous INC. 100 listings, will merge with GCA Corp., a Massachusetts high-technology firm. Two other aggressive takeover titans—Revlon and Loral—are about to lengthen their strings of acquisitions with the respective purchases of Thompson Medical (No. 134) and Ramtek (No. 113). Finally, at press time, Brookwood Health Services (No. 164)—after spirited rejection of takeover bids by Humana Inc.—agreed to merge with American Medical International, a $1-billion hospital management firm.

In the final analysis, the current takeover activity remains the most obvious clue to the distinction between the Second 100 fastest-growing companies and their counterparts among the INC. 100. Whether courted or courting, all in the second tier are clearly at least one step closer to coming of age. ☐

Bradford W. Ketchum, Jr., is a senior editor at INC.

What it takes to make the Inc. Second 100

The INC. Second 100 companies are among the fastest-growing smaller corporations in the United States. As runners-up to the INC. 100 (INC., May, page 51), all but six of them have either quadrupled or quintupled their sales in the past five years.

Data for the Second 100 roster were compiled in conjunction with the top 100 ranking. Each company meets these criteria:

1. The company is an independent, publicly held corporation in a manufacturing, mining, or service industry. Utilities, banks, insurance companies, and other financial institutions are excluded.
2. The company's sales or revenues were less than $25 million in 1976.
3. The company shows a sales/revenues history of at least five years, with an increase in its fiscal 1980 closing figure. Firms showing growth in the 1976-80 base period but a sales decline in the last year are excluded.

Who's tops at the bottom line?

In terms of percentage gains in net income, the top performer among the INC. Second 100 is Gerber Scientific (No. 123), which engineered a 36,488% increase in net earnings in the past five years. Barely in the black in fiscal 1976, Gerber closed 1980 with $5.9 million in net income.

Mired at the bottom of the list is AES Technology (No. 145), which continued to suffer serious setbacks in the loss column. The Illinois company's net losses plunged from $251,000 in 1976 to more than $5.7 million in 1980.

The leader in terms of dollars at the bottom line is Thompson Medical (No. 134), which registered net profit of more than $10 million in fiscal '80, up from $2 million five years before.

The table (right) ranks the top 10 profit performers among the INC. Second 100.

Growth in Net Income (1976-80)

Rank	Company (Second 100 Rank)	Percent change
1.	Gerber Scientific (123)	+36,488%
2.	Beard Oil (165)	21,935
3.	Dataram (159)	21,180
4.	Applicon (135)	19,065
5.	AM Cable TV Ind. (117)	14,000
6.	General Devices (115)	10,950
7.	Tylan (136)	5,560
8.	Monolithic Memories (192)	4,482
9.	TIE/Communications (152)	1,910
10.	North American Watch (107)	1,599

INC. Second 100/Index

Trading	Company (Rank)
OTC	AES Technology Systems (145)
OTC	Air Wisconsin (160)
OTC	AM Cable TV Industries (117)
AMEX	American Agronomics (170)
OTC	American Management Systems* (146)
OTC	Anacomp** (116)
OTC	Analogic (182)
OTC	Analysts International (122)
OTC	Applied Materials (184)
OTC	Applicon (135)
OTC	Argonaut Energy (191)
OTC	Autodynamics (105)
OTC	Beard Oil (165)
OTC	Berry Industries* (186)
OTC	Bolar Pharmaceutical (132)
OTC	Brookwood Health Services (164)
OTC	CACI (157)
OTC	CPT** (118)
OTC	Cascade Steel Rolling Mills (181)
OTC	Cherry Electrical Products (188)
OTC	Chessco Industries* (153)
OTC	Communications Corp. of America (167)
OTC	Computer Entry Systems (195)
OTC	Computer Task Group** (131)
OTC	Comserv (144)
OTC	Comshare* (111)
OTC	Control Laser (103)
OTC	Cullinane Database Systems* (106)
BSE	Data Architects (166)
OTC	Data Card* (185)
OTC	Dataram (159)
OTC	Dicomed (161)
OTC	Discovery Oil (147)
OTC	Dranetz Engineering** (137)
OTC	Duralith (154)
OTC	E.I.L. Instruments (168)
OTC	Electrospace Systems (199)
OTC	Emons Industries (114)
OTC	Evans & Sutherland Computer (120)
AMEX	Federal Resources (119)
OTC	First Artists Production* (102)
OTC	General Devices (115)
AMEX	Gerber Scientific (123)
OTC	HCC Industries (126)
OTC	HEI (130)
OTC	Haemonetics* (196)
OTC	Harken Oil & Gas (141)
OTC	Heritage Communications* (108)
OTC	Housing Systems (129)
OTC	Impell (149)
OTC	K-tron International (197)
AMEX	Kenai* (139)
OTC	Kevex (200)
OTC	Key Energy Enterprises (142)
NYSE	Lear Petroleum** (148)
OTC	MGF Oil (125)
AMEX	Material Research (169)
OTC	Maxon Industries (179)
OTC	May Petroleum (194)
OTC	Mediscience (112)
OTC	Microdyne (104)
OTC	Monolithic Memories (192)
OTC	NSA (180)
NYSE	National Education (176)
OTC	National Micronetics* (158)
OTC	Nicolet Instrument (173)
OTC	Norstan (127)
OTC	North American Watch (107)
OTC	Omnimedical (175)
OTC	Oxoco (110)
OTC	PaR Systems** (171)
NYSE	Pengo Industries (177)
AMEX	Penril** (174)
OTC	Phoenix Materials (124)
OTC	Power Conversion (133)
OTC	Prairie Producing (193)
OTC	Ramtek (113)
OTC	Raycomm Industries (190)
OTC	Robinson-Nugent** (128)
OTC	SEI (140)
OTC	Salem National** (172)
AMEX	Sandgate (138)
OTC	Sensormatic Electronics (189)
OTC	Service Fracturing (121)
OTC	Sigmaform (143)
OTC	Siltec* (156)
OTC	Staff Builders (109)
OTC	Standard Microsystems (155)
OTC	Survival Technology* (198)
OTC	Systematics General (183)
AMEX	TIE/Communications (152)
OTC	Thompson Medical (134)
OTC	Transducer Systems (150)
OTC	Tylan (136)
OTC	United States Surgical** (151)
OTC	Verbatim** (187)
AMEX	Vermont Research (163)
OTC	Verna (178)
AMEX	Worldwide Energy (101)
OTC	Zentec (162)

OTC - Over-the-counter AMEX - American Stock Exchange BSE - Boston Stock Exchange NYSE - New York Stock Exchange *1980 INC. 100 **1979/1980 INC. 100

FAST GROWTH DOES PAY OFF

Last year's INC. 100 outgained the Dow Jones Industrials by 150%.

An analysis of the stock market performance of the 1981 INC. 100 companies appeared last month (INC., May, page 161). It showed that a $100 investment in each of the companies' common stock on March 10, 1980, would have returned an average profit of $76 one year later. This hefty gain outstripped that of the Dow Jones Industrials by 300%, the Standard & Poor's 500 by 245%, the American Exchange Index by 181%, and exactly doubled the NASDAQ Composite.

Were these impressive gains a fluke? To find out, the editors analyzed the 1980 INC. 100 stocks in a similar fashion. The results: From April 1, 1980, to April 1, 1981—a period that witnessed a vigorous 230-point rally in the Dow to an eight-year high over 1,000—the 1980 INC. 100 scored a respectable average gain of 72%. This compares with gains of 29% for the DJI, 33% for the S&P 500, 57% for the Amex, and 59% for the NASDAQ Index. The group outdistanced the DJI by a solid 150%, and, as exceptional as their increments were, did better than the Amex and NASDAQ by some 22%.

To determine the profit or loss of a $100 investment in each stock, the O-T-C bid—or in the case of a number of exchange-listed stocks, the day's close—on April 1, 1980, was compared with its bid or close one year later. Adjustments were made for stock dividends, stock splits, or merger provisions, but not for cash dividends or broker's fees. "Best available quotes" are given in instances where the market for a given stock was unusually thin or the stock was infrequently traded. In two cases a merger was based on straight cash; the settlement is used as the price for the 1981 "bid."

In addition to their outstanding profit performance as a group, two other distinctions fairly leap from the page. One is that they were a particularly fecund bunch: No less than 28 companies blessed their stockholders with splits or stock dividends. This suggests a tendency for such young corporations to be sensitive to the market for their stocks—a highly favorable display of attentiveness, so far as investment is concerned.

1980 INC. 100:
RELATIVE MARKET PERFORMANCE

	4/1/80	4/1/81	% Gain
INC.	100	172	72
Dow Jones Industrials	784.47	1014.14	29
Standard & Poor's 500	102.18	136.00	33
American Exchange Index	234.32	368.89	57
NASDAQ Composite	133.14	211.34	59

A second noteworthy element is the general increase in price/earnings multiples from one year to the next. While the P/E ratio of the over 3,000 common stocks that constitute the entire active common stock market rose from 7 to 9, or 29%, in the interval, the average P/E of these INC. 100 (extracted where P/E data was available and appropriate) soared from 16 to 23, or 44%. Obviously, this rise would reflect a higher rate in price change over earnings change—a trend in investor demand discussed this month in Street Talk (see page 136). In only a couple of instances was there a significant exception.

Unlike all the other popular averages except the 30 Dow Industrials, buying $100 worth of each of the INC. 100 companies is within the practical means of most investors. Simply put, $10,000 on April 1, 1980, would have become $17,200 by April 1, 1981, without supervision. But a reasonably well-managed portfolio of the same stocks stood to return considerably more. For example, the stock of the fastest-growing company, Tandem Computers, dipped from the high 70s to the low 60s

INVESTING IN GROWTH COMPANIES *(from page 126)*

in the period, thus providing a good chance to sell and buy back. Cray Research, next in the revenue-growth line, went as high as 48½ and returned to 30 before moving ahead again. And the third-ranked company, NBI, retraced 25% of its gain prior to attaining new highs.

On the other hand, a 72% profit delivered by a group of stocks left unattended isn't a bad performance these days, either. □

1980 INC. 100 STOCK MARKET PERFORMANCE

Rank	Company	Stock Splits & Dividends/Mergers	Bid/close 4/1 '80	Bid/close 4/1 '81	P/E ratio 3/31 '80	P/E ratio 3/31 '81	$100 Invested For Year Worth
1	**Tandem Computers**	2:1 split, 7/18/80	23¼	75	30	61	$ 323
2	**Cray Research**[1]	3:1 split, 12/19/80	14.33	37¼	22	45	260
3	**NBI**	3:1 split, 3/9/81	9½	27⅜	30	48	292
4	**Thousand Trails**	10% stock dividend, 6/30/80	5	11¼	4	7	225
5	**Volunteer Capital**		3⅝	7½	5	deficit	194
6	**Cado Systems**		18¼	35¼	18	24	193
7	**Geneve**		11[4]	12½	NA	NA	114
8	**Floating Point Systems**		15⅜	31⅜	19	25	202
9	**DPF**		5⅝	9¾	3	6	173
10	**RSI**		3	2	NA	NA	67
11	**Printronix**		18⅜	26½	19	22	141
12	**Texas American Oil**	Merged by Texas American Energy, 6/16/80; basis: one share for one share	9⅜	12⅝[3]	14	17	137
13	**Acton**	5:4 split, 12/15/80	8.9	15¾	8	13	177
14	**Sonic Industries**		5[4]	1	NA	NA	20
15	**Salem National**		4½	1¾	deficit	deficit	39
16	**Waspercorp**		8¾	12	9	17	137
17	**Econo-Therm Energy Systems**		½[4]	2⅞	NA	NA	575
18	**Xonics**[2]		2⅜	5½	NA	deficit	231
19	**Invesco International**		⅞	3	NA	NA	343
20	**Prime Computer**[1]	3:2 split, 12/19/80	16.17	34¼	19	31	212
21	**FBC**	50% stock dividend, 4/4/80; 50% stock dividend, 12/29/80	1.83	3⅛	2	9	171
22	**Tomlinson Oil**	50% stock dividend, 9/30/80	11	9	7	23	82
23	**Air Florida System**		7⅞	13	25	41	165
24	**First Artists Production**		3⅜	4¼	19	6	128
25	**Triad Systems**		20	31¾	30	35	159
26	**Reeves Communications**	50% stock dividend, 10/30/80	10	39⅜	12	31	398
27	**Telecom Equipment**		12½	18⅜	30	34	150
28	**Rolm**[1]	2:1 split, 8/22/80	19⅜	38	20	31	196
29	**Shopsmith**		7	11	6	9	157
30	**Commodore**[2]		1⅝	3½	deficit	deficit	215
31	**Valtec**	Merged by M/A-Com, 9/23/80; basis: one share for one share	16¾	29⅛[3]	19	35	174
32	**Chuck Barris Productions**		3¾	4¼	4	35	113
33	**Data Terminal Systems**[1]		22½	13	13	32	58
34	**Carlsberg Capital**		4	6	2	4	150
35	**Rampart General**		1¾	1¼	19	deficit	71
36	**Kenai**	3:2 split, 9/29/80	13¾	23⅛	17	15	168
37	**Chem-Nuclear Systems**	3:2 split, 12/1/80	12.83	32½	14	19	253
38	**Allied Technology**		¼	¼	deficit	NA	100
39	**Silco**		2[4]	2	NA	NA	100
40	**Cullinane Database Systems**	2:1 split, 11/8/80	14	52¾	18	42	377
41	**Quality Care**		7	4¼	35	NA	61
42	**Lear Petroleum**[1]		17	27¼	16	29	160
43	**Trans Delta**	Merged by Petro-Lewis, 9/24/80; basis: $21.43 cash per share	12⅛	21.43[3]	2[illegible]	NA	177
44	**Decision Systems**		1⅝	4¼	deficit	34	103
45	**Data Access Systems**[2]	10% stock dividend, 1/19/81	9.09	15⅝	7	10	175
46	**Excepticon**		3⅜	5⅛	4	6	141
47	**Siltec**		20½	15¾	18	12	77
48	**Continuous Curve Contact Lenses**	Merged by Revlon, 8/27/80; basis: 1.275 shares for one share	39½	49.38[3]	20	11[3]	125
49	**Jhirmack Enterprises**		9¼	10	9	11	108
50	**Dranetz Engineering Laboratories**	50% stock dividend, 10/10/80	8.33	19⅜	10	19	237
51	**Petroleum Equipment Tools**		24½	47¼	13	16	193
52	**Auto-trol Technology**		29½	33½	16	21	114
53	**Wainoco Oil**[1]		21⅛	29¾	32	40	141
54	**UniShelter**		3¾	2½	1	deficit	67
55	**Coradian (form. United Telecommunications)**		11½	10⅛	12	28	89
56	**American Management Systems**		17	18	14	13	106
57	**Emerson Radio**	10% stock dividend, 6/13/80	8.86	19⅝	10	67	222
58	**GranTree**		4	4⅞	6	16	122
59	**Southwest Airlines**[1]	3:2 split, 9/22/80	13.16	49	5	12	372
60	**Computervision**[1]	2:1 split, 8/15/80	23.43	80⅝	22	46	344
61	**Western Standard**		⅜[4]	⅛	NA	NA	33
62	**Gulf Energy & Development**		19⅜	20⅛	17	16	103
63	**Adac Laboratories**		9¾	14	21	NA	144
64	**Chessco Industries**		5¼[4]	5	NA	NA	95
65	**Heritage Communications**	50% stock dividend, 1/23/81	6½	15⅝	5	51	244
66	**Computer Network**		4⅞	4⅞	5	deficit	111
67	**Superior Foods**		1⅜[4]	2¼[4]	NA	NA	164
68	**Paradyne**[2]	100% stock dividend, 11/26/80	10.81	38⅝	22	52	357
69	**Computer Task Group**	10% stock dividend, 7/7/80	5.23	18½	NA	17	354
70	**Galveston-Houston**	3:2 stock split, 7/25/80	26.33	33	18	15	125
71	**MeiPath**[2]	100% stock dividend, 2/27/81	12.94	21⅝	88	21	167
72	**Verbatim**		14	16	14	deficit	114
73	**Data Card**	50% stock dividend, 8/20/80	12.33	16⅝	9	13	135
74	**Berry Industries**		2¼	10⅜	75	17	461
75	**Haemonetics**		16¼	24	19	26	148
76	**Penril**		9¾	14½	8	11	149
77	**Survival Technology**		5¼	6¾	9	NA	117
78	**Liberty Homes**		4⅞	9¾	4	10	200
79	**Interface Mechanisms**		7⅝	17½	13	24	230
80	**U.S. Surgical**	2:1 stock split, 12/8/80	12¾	28	17	31	220
81	**Continental Resources**		28[4]	28[4]	NA	NA	100
82	**PaR Systems**		13	25½	8	17	196
83	**Varadyne Industries**		⅝	.05	NA	NA	16
84	**American Medical Buildings**		5	5⅝	16	33	118
85	**Robinson-Nugent**		18	17½	14	17	97
86	**Documation**	Merged by Storage Technology, 11/26/80; basis: .85 share for one share	8⅝	22.31[3]	11	13[3]	251
87	**American Nucleonics**		⅞	1½	NA	NA	171
88	**Knogo**	100% stock dividend, 9/20/80	11.94	16⅜	16	20	137
89	**CPT**		18	45¾	15	24	254
90	**Save-Way Industries**		11½	10	9	8	87
91	**Techtran Industries**		7½	7½	NA	15	100
92	**Matrix**	4:3 split, 4/25/80	15⅜	36⅛	18	38	235
93	**Comshare**		14	13¾	12	13	98
94	**Ann Stevens**	Merged by ASI Apparel, 5/10/80; basis: $3.14 cash per share	2¼[4]	3.14[3]	NA	NA	140
95	**Crown Industries**	10% stock dividend, 5/29/80	5.45	6⅝	3	7	126
96	**Anacomp**		10	20⅝	11	20	209
97	**International Research & Development**		7	13¼	1[illegible]	35	189
98	**National Micronetics**		5¾	8⅝	12	deficit	150
99	**Winston Network**		6¾[4]	10½[4]	NA	NA	156
100	**Golden Oil**		3	3⅞	NA	NA	129

[1] New York Stock Exchange [2] American Stock Exchange [3] adjusted for merger [4] best available quote NA – not available or not applicable

THE FLOODGATES ARE OPEN

Loosed by recent tax reductions, a surge of investment dollars has filled venture coffers to record heights.

By Stanley E. Pratt

In his 1976 book, *The Unseen Revolution: How Pension Fund Socialism Came to America,* economist Peter Drucker warned that our capital markets were becoming increasingly distant from entrepreneurial needs because of the influence of conservative pension fund capital investment. Drucker called for the creation of new institutions that would provide both capital and management guidance to young and growing businesses.

In fact, the organized venture capital community has been evolving since the 1960s toward filling this role. In 1969, the capital committed to professional venture capital firms was approximately $2.5 billion to $3 billion. It remained at that level until 1978, when the capital gains tax reduction spurred further investment. By the end of 1980, the pool was an estimated $4.5 billion. Annual venture capital disbursements from this pool increased even more dramatically, from approximately $365 million a year between 1970 and 1977 to about $1 billion a year in 1979 and 1980. During the past decade, between 400 and 600 firms were involved in business development investments.

There are three major components of the venture capital pool: independent private venture capital firms, which represent some $1.8 billion; Small Business and Minority Enterprise Small Business Investment Companies (SBICs and MESBICs), $1.4 billion; and venture capital subsidiaries of large financial institutions and industrial corporations, $1.3 billion.

The independent firms include family groups such as the Rockefeller, Phipps, and Whitney organizations that were the forerunners of today's capital industry. But more important now are the professional partnerships and corporations funded by pension funds, major corporations, individuals and families, endowments and foundations, insurance companies, and foreign investors. There are about 100 such firms, ranging in capital size from $10 million to $60 million. They participate in the whole range of investments, from start-ups to expansion phases, and normally make about 5 to 10 investments a year, ranging from $250,000 to over $1 million.

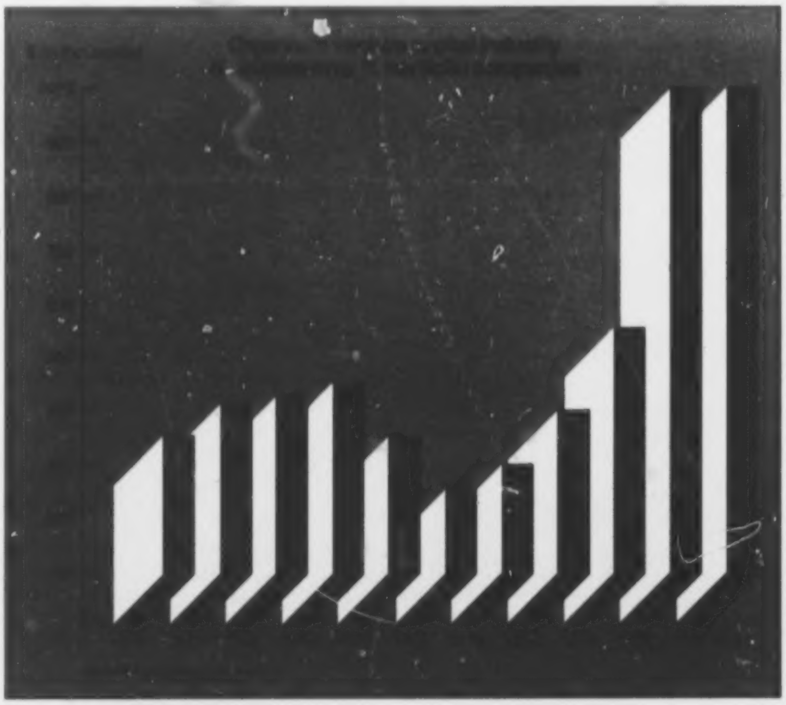
Some firms specialize in start-ups and even seed financings, while others prefer expansion financing or leveraged buyouts that enable the management of larger corporations or privately owned firms to make acquisitions.

High-technology businesses attract most of the investments of these firms, though a growing number are looking for manufacturing, distribution, and even consumer-oriented companies. There has recently been a trend to investment in service businesses with promise for growth, particularly computer software businesses that are broadly based.

Independent venture firms usually look for a strong management team, a product with a clear market niche and high growth potential, and the possibility that the company will develop into a major new business. These firms are generally active investors who work with the operating management to develop the business over a five-to-seven-year period. They often provide assistance in planning, personnel development, supplier relationships, marketing, and future financing requirements.

The second component—SBICs—are licensed by the federal government. There are currently some 340 of them, about half of which are primarily involved in venture capital investment. The rest are principally involved in making loans to small businesses or in

Adapted from Guide to Venture Capital Sources, *Fifth Edition (Capital Publishing, Wellesley, Mass.; $62.50). Stanley E. Pratt is president of Capital Publishing and editor of the* Guide. *He has been an active venture capitalist.*



VENTURE CAPITAL *(from page 132)*

making investments in specific industries, such as grocery markets or movies.

SBICs usually have a minimum private equity capital of $500,000, though this may range as high as $10 million. They also have access to government loans, thereby achieving a total investment potential of as much as five times the private capital. Like the independent firms, SBICs normally make 5 to 10 investments a year, ranging from $100,000 to more than $1 million for each portfolio company. SBICs usually avoid straight equity investments in early-stage companies; because they generally borrow part of their investment capital, they prefer income-producing investments, such as preferred stock or debt instrument investment structures, that enable them to service the interest on the money they have borrowed.

Because they place less emphasis on high technology, there is far more diversity in the types of investments SBICs will consider than in those of the independent firms. They are excellent sources of financing for businesses with moderate growth prospects and lower potential risk.

MESBICs are privately owned and managed firms licensed to provide financing for small businesses that are at least 51% owned by members of minority groups, Vietnam veterans, and other socially or economically disadvantaged persons. Private capital in the more than 120 MESBICs ranges from $300,000 to more than $4 million; those with more than $500,000 in private capital are eligible for government borrowing leverage of four to one. Most MESBICs operate in a manner similar to SBICs.

The third part of the venture capital pool is made up of separate divisions of larger institutions. A number of financial corporations, especially bank holding companies, have formed subsidiaries to invest in business development situations that don't meet the parent corporation's usual investment or loan criteria. Such subsidiaries are limited to 5% of the parent's capital; they range from $5 million to $100 million. Most investments by these groups are in later-stage business development and management-leveraged buyouts. Commitments to individual companies generally range from $1 million to $5 million.

Venture capital investment divisions have also been formed by some 40 large industrial corporations, including Exxon, General Electric, and Xerox. They typically invest in companies that have products, markets, or technology related to the parent company's operations, or where the business is of interest as an opportunity for diversification.

These corporate groups, after some false starts in the venture investment field during the '60s and early '70s, now seem to follow proven venture investment disciplines, such as independent profitability and the five-to-seven-year investment time frame, rather than orthodox investment analysis. If the corporations are able to maintain these special disciplines, the corporate subsidiary segment of the venture capital community, which has already showed notable growth in 1979 and 1980, could become an even more productive source of capital.

Most of the organized venture capital industry is concentrated in New York, the San Francisco Bay area, Boston, and Chicago, with secondary centers of activity in Minneapolis–St. Paul, Dallas, Houston, southern Connecticut, and Washington, D.C./Baltimore. Activity is increasing in Southern California, the Pacific Northwest, and the Southeast. New York and Chicago, as major financial centers, are leading markets for leveraged buyouts and expansion financing. San Francisco and Boston, also financial centers, tend to concentrate in technology-based business development investment. Minneapolis–St. Paul is a center for medical and health care and computer-related ventures, while Dallas and Houston are centers for energy-related ventures.

But although location remains important, many venture capital firms now operate virtually coast to coast. A stimulus to cooperation among venture capital firms has been the development of two major trade associations, the National Association of Small Business Investment Companies (NASBIC) and the National Venture Capital Association (NVCA).

Boosted by its accomplishments in the past two years, the organized venture capital industry currently enjoys excellent health. It can boast a record amount of available investment capital and the experience of two decades of development, and is well situated to respond to today's healthy entrepreneurial climate. ☐

SEND LIQUOR ANYWHERE* BY PHONE.

Whatever the occasion—the fastest way to send gifts of wine or liquor is thru our service. DELIVERY ANYWHERE—call anytime—charge to any major credit card. Service fee of $10 includes delivery, gift wrap, card and taxes. SURPRISE SOMEONE TODAY!

800-528-6148

NATIONWIDE GIFT LIQUOR SERVICE INC.
2150 E. Thomas Rd., Suite 102, Phoenix, AZ 85016
Rush me your catalog—
Name________________
Company________________
Address________________
City________ State________ Zip________

*except where prohibited

Circle No. 205 on Reader Service Card.

THE BIG BUSINESS
OF SMALLER COMPANIES

Inc.

6/24/81 C 4687-1

JULY 1981
$2.00

The #1 INC. 100 Company

COBB RESOURCES STRIKES IT RICH

Annual Compensation Survey

TOP EXECUTIVES KEEP AHEAD OF INFLATION

Governor Fob James

RUNNING ALABAMA LIKE A BUSINESS

Tax-free bonds

HOW TO GET MONEY BELOW PRIME RATE

Management Strategies

WHY PARTNERS BREAK UP

Cobb Resources C
George Lotspei

330004 NLL 45?50090 3440 MAR82
JOSEPH MC NALLY
SUITE 800 07
4520 E WEST HWY
WASHINGTON DC 20014

JULY 1981

CONTENTS

VOL.3,NO.7

DEPARTMENTS

From the editor 7
The hottest sport going in Washington: Measuring clout.

Letters 10

Speaking out 12
Japanese management has a rival in the American model.

Off the record 16
Thinking small: Once we all thought biggest was best. Now we're beginning to know better.

Economic issues 18
Stop taxing capital gains.

People & innovations 22

News & trends 25
Home knitters in Vermont win case against Feds; Arizona lawmakers curb nonprofit competition; Suburbs scene of more small firm start-ups; Business slump spurs sellouts and mergers.

News in-depth 28
If the prime's killing you, try a tax-free bond.

Washington update 31

Time out 85
Six places where the fishing, and the fun, are virtually guaranteed.

Mind & body 89
You can trust your hunches.

Investing in growth companies 91
Who says stocks can't beat inflation?

New issues 94

Street talk 96
The small investor finally has an edge.

Venture capital 99
A guide to SBIC money.

Marketing 100
Choosing an ad agency.

Taxes 102
How the IRS figures out the worth of your company.

The law 105
Prepaid legal services can help you stay out of law offices—and court.

Ideas you can use 108

Books 113
Wouldn't you like to know how high the prime's going?

The buck stops here 116

Cover photo
Jay Silverman

The INC. Annual Compensation Survey

Top execs take home an $8,600 raise

The chief executives of 900 smaller companies chalked up $50,800 in salary. Other top managers did almost as well. **35**

Public companies: $156,000 at the top **40**

Cobb Resources strikes it rich

George Lotspeich's tenacity and a nose for finding uranium has catapulted his mining company to the top of the INC. 100. **48**

Bob Aspromonte believes in teamwork

Thirteen years in pro baseball taught him management techniques that helped him build a $15-million company. **54**

Governor Fob James

Running Alabama like a business

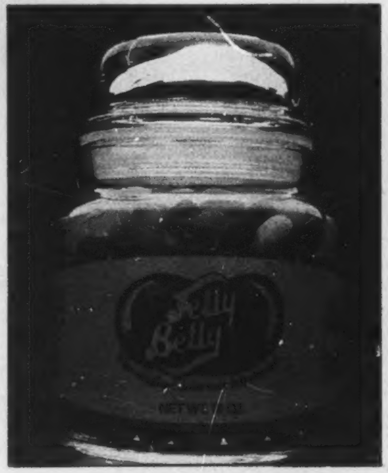
He trained for his job by lifting his barbell company to $43 million in sales. **60**

Why partnerships break up

If he'd observed these three principles, says the author, his own partnership might still be alive. **67**

Ronald Reagan is making at least one business boom

By nibbling on jelly beans in public, the President turned Herman Rowland's little candy company into a supply-side superstar. **73**



COPYRIGHT © 1981 BY INC. PUBLISHING COMPANY All rights reserved. INC. is published monthly by Inc. Publishing Company. ISSN: 0162-8968. Editorial and executive offices at 38 Commercial Wharf, Boston, MA 02110. Telephone (617) 227-4700. Bernard A. Goldhirsh, President; John W. Carlson, Vice-President; Norman Raben, Vice-President. ☐ **SUBSCRIPTION:** One-year subscription rate for U.S. and possessions, $18.00; Canada, $30.00. All other countries, one-year subscription rate $45.00, cash orders only, payable in U.S. currency. Forms 3579 and all subscription correspondence should be addressed to INC. Magazine, P.O. Box 2538, Boulder, CO 80322, (800) 525-0643. Please allow at least six weeks for change of address. Include your old address as well as new, and enclose if possible an address label from a recent issue. ☐ Controlled circulation postage paid at Boston, Mass., and at additional mailing offices. Material in this publication may not be stored or reproduced in any form without permission. Requests for permission should be directed to Rights and Permissions Editor, INC., 38 Commercial Wharf, Boston, MA 02110.

MEASURING CLOUT

If small business can help Boeing, why can't it help itself?

If Washington had an official indoor sport it would probably be called "Measuring Clout." Clout is, of course, influence in the making of federal policy, or in the distribution of federal jobs, goodies, and burdens.

One of the unwritten but iron rules of the game is that the perception of clout by the players is at least as important as the reality. You have clout, to some extent, because people think you have it. And if people (especially about 10,000 officeholders and lobbyists) think you have clout, they'll act like you do.

One of our favorite pieces of "clout perception" is an annual survey which *U. S. News and World Report* has conducted on the subject for the past eight years. Each year the magazine asks some 1,400 opinion leaders to rank a list of institutions for "influence," on a scale of one to seven. Four years ago, small business, quite sensibly, was added to the annual list of some 30 competitors for clout. Some of the results are shown in the chart on this page, which we print here courtesy of *USNWR*.

Small business has come in next-to-last (or tied for that spot) in each of the four years. The result hasn't changed, despite the unprecedented passage of five important small business bills in Congress last year, and well-publicized (but not yet fully honored) commitments of both major parties to carry out the recommendations of the 1980 White House Conference on Small Business.

Large business came in second for three years and third in the fourth.

Now let's get a little perspective on these perceptions from a *Washington Post* item of May 19. The Reagan Administration wanted to cut the budget for the Export-Import Bank's direct loans by $752 million (down to $5.1 billion) and its loan guarantees by $1 billion (down to $7.5 billion). Two more facts: The average interest rate on those direct loans was 8½% last year (small business at home was paying at least between 15% and 19%). And according to this same news item, two-thirds of those direct loans went to *seven* U.S. companies: Boeing, GE, Westinghouse, McDonnell Douglas, Lockheed, Western Electric, and Combustion Engineering. Some clout, eh?

Well, guess what Boeing (part of No. 2) did to defeat the White House (No. 1) when the House of Representatives (No. 8) voted to support the White House (No. 1) against the House Appropriations Committee (part of No. 8) and the Senate Budget Committee (part of No. 3)?

It sent for good old No. 29!

Yep, way down there next to last, right next to the water boy at the end of the bench. "We just made clear what this meant to us and our suppliers in 44 states, and it got a fantastic reversal," said a Boeing spokesman. . . . "Boeing's home-state [Washington] delegation of five Democrats and two Republicans agreed to spread the word, stressing the trickle-down benefits of Export-Import loans on smaller companies throughout the country."

1,400 OPINION LEADERS RANK INSTITUTIONS BY INFLUENCE*

Most Influential	**1981**	**1980**	**1979**	**1978**
White House	1	1	1	1
Large business	2	3	2	2
U.S. Senate	3	6	3	6
Television	4	2	5	4
Oil industry	5	4		
Supreme Court	6	5	4	3
Banks	7	7	9	9
U.S. House	8	11	7	7
Cabinet	9	14	13	13
Federal bureaucracy	10	8	6	8
Medical profession	28	25	25	25
Small business	**29**	**29**	**28**	**27**
Cinema	30	30	29	27

**U.S. News and World Report*

We'd just as soon stay out of evaluating the merits of this one for right now. Suffice it to say, the Export-Import Bank (part of No. 10—the Federal Bureaucracy) won this round. Its money was *not* cut.

We will watch with great interest, however, the fate of two other proposals before the Senate (No. 3) and the House (No. 8). One is to give small business (No. 29) 25% of the federal tax cut this year or 50% of the cut in business taxes (see May, page 184). The other is S. 881 (see The Buck Stops Here, page 116). Both of those will permit the Republican Party (No. 15) and the Democratic Party (No. 24) to fulfill some more of that promise their leaders made during 1980—to carry out the recommendations of the White House Conference.

We hope to see and hear No. 1, No. 2 (especially all seven large companies and their trade associations), No. 3, No. 8, No. 15, and No. 24 all in there pitching for good old No. 29. Only fair, eh? Are you listening No. 2? When does No. 29's turn come? On issues where *it* needs *you*?

We'll be watching—and reporting. And we expect to be talking a good deal about this subject of who needs whom and when during the next year or two.

Some people look and sound like they have clout; others really do. We know small business is doing better both ways today than it did five years ago. (Its rating in the *USNWR* poll has gone up from 2.09 to 3.18 of a possible 7.) We won't be satisfied, however, until it's in the top 10. For the employer of 60% of the private sector's labor force in well over 10 million enterprises, nothing less will do.

The Capitol's professional clout measurers would do well to keep in mind the home-town position of small business people, which is the same in big city neighborhoods, suburbs, or villages. Small business men and women are *community* opinion leaders. They are pretty big fish in many thousands of small ponds. Big enough, as Boeing demonstrated it knows, so that when they pull together they have the power of a good-sized whale. They're just not yet in the habit of pulling together for themselves. That's one of the things INC. hopes to help with.

Maybe *USNWR* could add a footnote with an asterisk next to No. 29 (or wherever small business is next year): "Has been known to overcome others—even No. 1—when roused or called upon, for example, by No. 2 or others. Still needs to demonstrate ability to do so continuously on its own account, with or without reciprocal help from others." ☐

Milton D. Stewart, Editor

The INC. Annual Compensation Survey

TOP EXECS TAKE HOME AN $8,600 RAISE

By Bradford W. Ketchum, Jr.

Double-digit inflation nibbled away at a lot of paychecks last year, but not for most of the people who run smaller companies. Instead, they actually gained ground—with average increases of better than 18% in total compensation during 1980. For chief executives alone, pay hikes averaged 19.9%, bringing their average total compensation to $73,400. At the same time, other top managers of small companies shared in the growing prosperity of their companies, with

CHIEF EXECUTIVE PROFILE
(1980 average)

Total compensation	$73,400
Base salary	50,800
Bonus	18,400
Compensation as percent of payroll	23.0%
Change in base salary 1980 vs. 1981	+17.4%
Salary increase for 1981	+12.3%
Age	46
Years in position	9.5
Years with company	12.8
Equity ownership	61.8%

Steve Schmitt

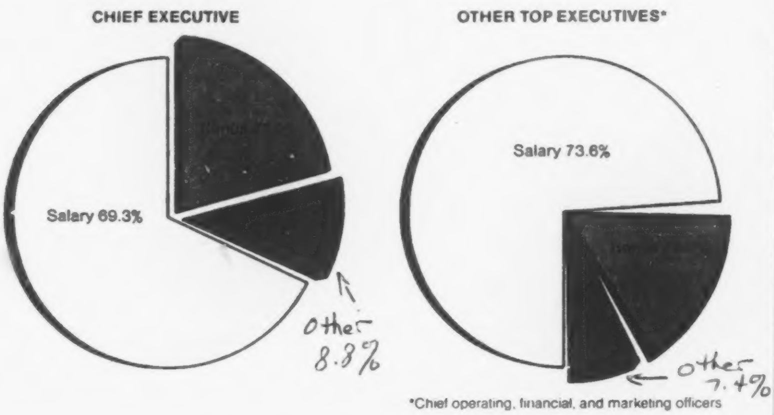
PROFILE OF THE TOP BRASS

(1980 Average)

	Chief operating exec	Chief financial exec	Chief marketing exec
Total compensation	$56,800	$44,800	$49,600
Base salary	40,200	35,100	35,100
Bonus	12,100	10,400	9,000
Compensation as percent of payroll	11.4%	8.3%	9.2%
Change in base salary 1980 vs. 1981	18.4%	17.3%	15.2%
Salary increase for 1981	10.9%	10.9%	11.4%
Age	41	42	41
Years in position	6.1	6.2	5.2
Years with company	9.3	8.6	8.0
Equity ownership	15.3	13.3	9.4

EXECUTIVE PAY: SALARY'S BIG SPLIT

(Percent of average total compensation)



*Chief operating, financial, and marketing officers

EXECUTIVE PERKS: HEALTH LEADS THE LIST

	Net sales/revenues				
Benefits	Under $1.0 mil.	$1.0 mil. to $2.4 mil.	$2.5 mil. to $4.9 mil.	$5.0 mil. to $9.9 mil.	$10.0 mil. or over
Medical/life insurance					
Dental insurance					
Deferred compensation	◍	◍	◍	◍	●
Pension	◍	◍	◍	◍	◍
Medical reimbursemer.:	○	◍	◍	◍	●
Profit sharing	○	○	◍	●	●
Automobile	○	○	○	●	●
Employee stock purchase	○	○	○	○	○
Supplemental retirement	○	○	○	○	○
Thrift saving	○	○	○	○	○
Low/noninterest loans	○	○	○	○	○
Club membership	○	○	○	○	○

Percent of respondents

○ 1-25% ◍ 26-50% ● 51-75% 76-100%

compensation increases that ranged from 18.1% for marketing executives to 21.2% for operating officers. Overall, the raises nudged average total earnings for small company managers beyond the $50,000 mark.

These and other figures emerge from INC.'s first Annual Compensation Survey of more than 9,800 smaller businesses in the United States. The results, based on responses from more than 900 companies employing over 1,500 executives, reveal new trends in executive pay practices for the 1980s. The chief conclusions emerging from the INC. survey are presented in tables and charts on these and the following pages. They include:

☐ Executive compensation as a percent of total payroll ranges from an average of 8.3% for financial officers to 23% for chief executive officers.

☐ Medical and life insurance benefits are universal among smaller company perquisite packages. The majority of the larger companies—those with sales of $5 million or more—provide company cars for their executives. Among smaller firms, only two out of five furnish automobiles, primarily for CEOs. Regardless of company size, less than one out of four underwrite club memberships.

☐ Paychecks keep pace with company size. Total compensation for CEOs in companies with less than $1 million sales averaged $45,600 last year. In comparison, chief executives in firms with volumes of more than $10 million averaged $129,400 in total pay. A similar pattern emerges when the figures are broken out by size of work force. Total compensation for CEOs managing companies with less than 50 employees averaged $59,700 in 1980, compared with $149,100 earned by counterparts in firms with more than 250 employees.

☐ Top executives in the construction industry come out on top as the highest paid smaller company managers, chalking up an average total remuneration of $87,600 last year. Not far behind are manufacturing executives, whose 1980 total compensation averaged $82,300.

☐ There are scant differences in regional pay levels. Averaging total pay of $74,700 last year, CEOs in the Northeast came out ahead of their counterparts in other regions by a mere $1,100 to $2,200.

☐ Salaries and bonuses constitute more than 90% of smaller company executives' total remuneration.

☐ Outside directors earn, on average, about $2,400 in annual fixed fees, plus slightly more than $200 per board meeting.

Beyond these findings, data collected from the INC. study indicate several new directions for executive compensation during the decade ahead. Four principal forecasts emerge from the survey results:

1. *The base salaries of small business CEOs will average $132,000 by 1990; total remuneration will top $190,000.* Based on inflation and simple arithmetic, sal-

aries will hurtle past the six-figure mark by 1987.

Top management pay raises tend to outpace inflation by at least 2% or 3%. With inflation headed downward but unlikely to dip below 7.5%, the odds are that executive compensation will continue to increase by at least 10% a year. At that rate, paychecks will double roughly every seven years. Thus, the $50,800 average salary earned by small business CEOs in 1980 will become $102,000 by 1987, $132,000 by 1990, and about $204,000 by 1994. Likewise, average total remuneration, which will top $80,000 this year, will soar to $143,000 by 1987, and exceed $190,000 by 1990.

With an average salary hike of 12.3% this year, chief executives will realize a slight gain in real income measured against inflation's current 9.6% rate. Others in the top echelon will come a little closer to breaking even, with 1981 salary bumps ranging from 10.9% for operating and financial executives to 11.4% for marketing officers.

Obviously, prevailing inflation tempers take-home pay and serves as a benchmark for scaling management salaries. But, as the INC. survey shows, its bite has little direct influence on compensation policies themselves. Seventy-four percent of the companies responding to the study indicated no change in 1981 pay practices related directly to inflation levels. Of the 26% that did make adjustments due to inflation, 12% hiked their executives' salaries, 7% added cost-of-living increases, and 5% beefed up bonuses.

2. *Cash will remain king in small business pay schemes.* Preoccupied with present-value concepts, particularly when it comes to their paychecks, executives' preference for current and deferred cash will be as persistent as inflation's erosion of their buying power. Given the pressure exerted by the latter, along with the welcomed shift to a 50% tax ceiling on earned and deferred income, it's no surprise that cash salaries and bonuses constituted about 92% of the small business executive's 1980 pay package.

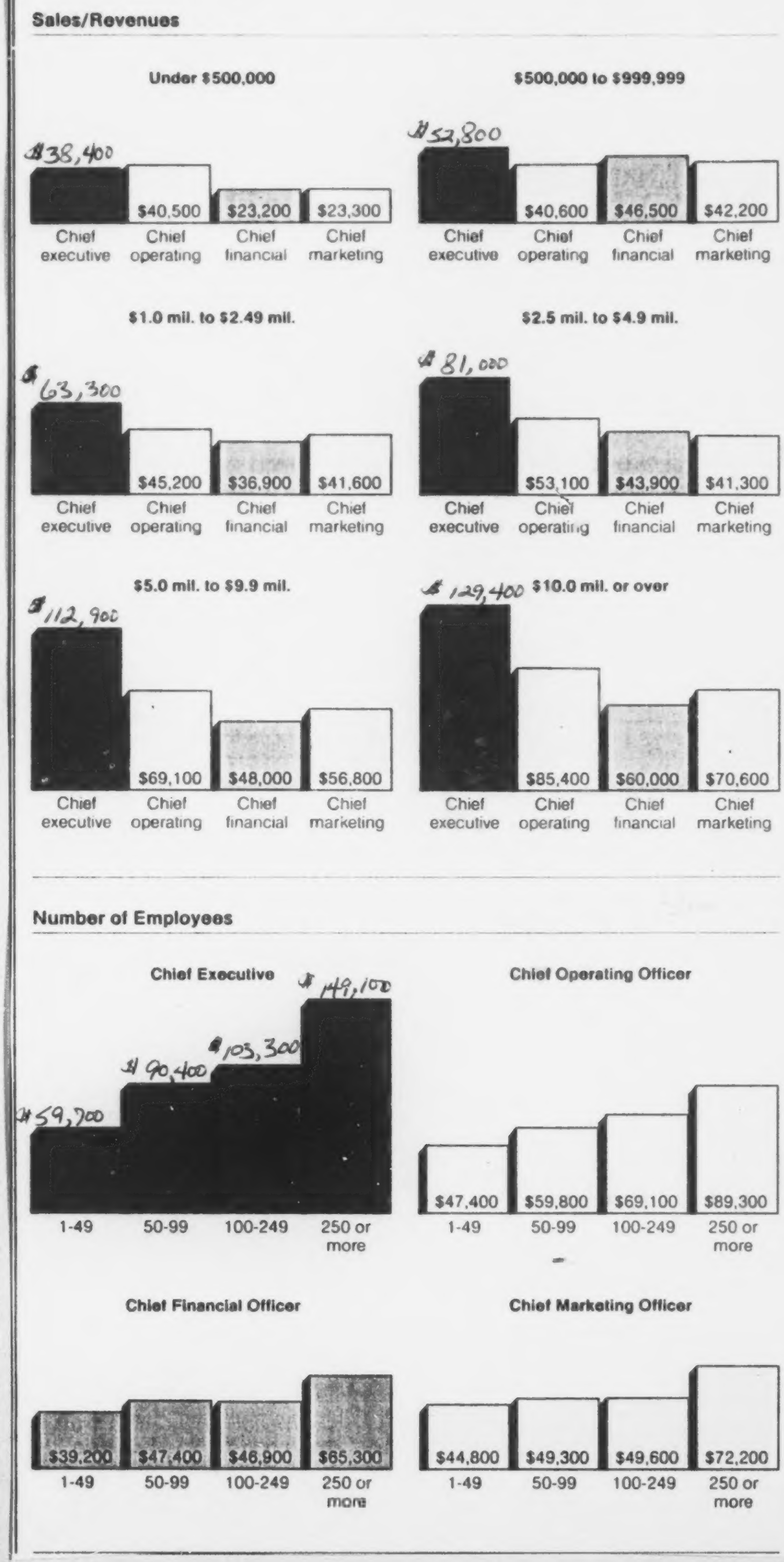
Cash-related compensation is in, and the growing accent on bonuses is perhaps the strongest testimony to that fact. More than three out of four companies responding to the INC. survey pay bonuses. Of those, 74% pay cash. Last year, top management's average bonuses ranged from $9,000 for marketing executives to $18,400 for CEOs. In between were chief operating officers, who took home an average cash bonus of $12,100, and financial managers, whose bonuses averaged $10,400.

Overall in 1980, the average cash bonus of small company CEOs and chief operating officers jumped by 26% and 31%, respectively. Not far behind were top financial and marketing managers, with bonuses that were fatter by about 25%.

3. *Executive pay will be tied more directly to performance and results.* Very

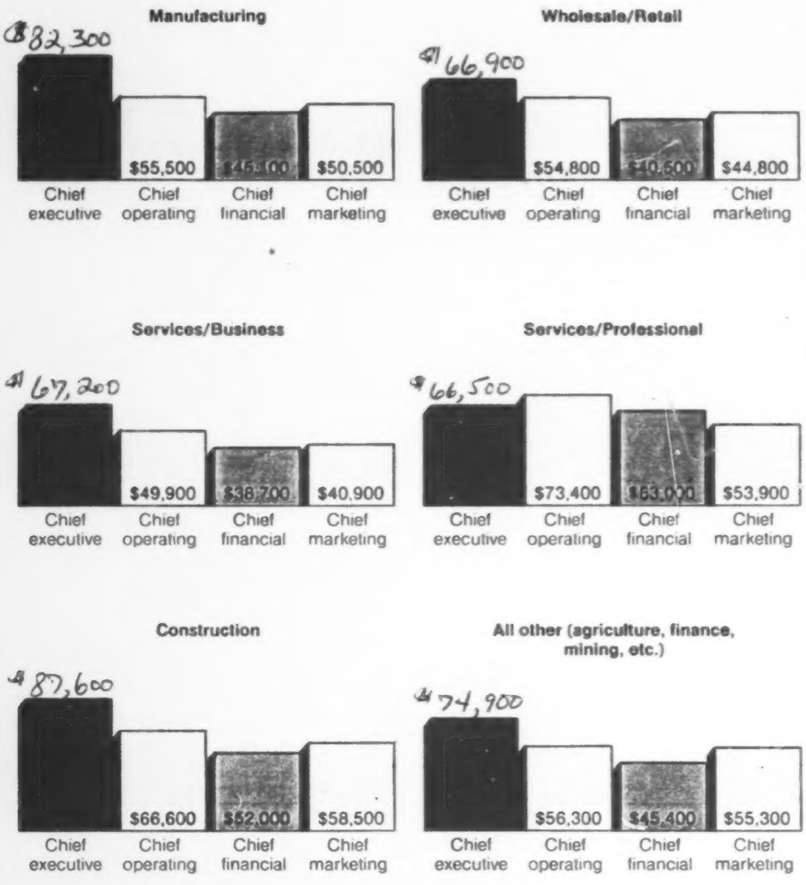
PAYCHECKS KEEP PACE WITH COMPANY SIZE

(Average total remuneration)



THE TAKE AT THE TOP BY INDUSTRY

(Average total remuneration)



HOW MUCH DO DIRECTORS EARN?

More than 97% of the companies that responded to the INC. survey maintain boards of directors. Those without formal boards are generally companies with less than $1 million in sales or less than 50 employees.

As the survey results show, most larger companies—those with sales of $5 million or more— have five or six directors, at least two of whom are outside advisers. The smaller firms (under $5 million in sales), on average, have three or four directors, one of whom is usually an outsider.

Director compensation generally includes an annual flat fee plus a fixed payment per meeting. As the table below indicates, director remuneration averages about $2,400 a year and $200 per board meeting.

Annual fixed fee	Percent respondents	Fee per meeting	Percent respondents
$ 100 or less	13.1%	$ 50 or less	19.8%
101-300	9.2	51-100	24.3
301-500	7.9	101-200	24.3
501-1,000	15.8	201-300	10.9
1,001-2,000	22.4	301-400	5.4
2,001-5,000	19.8	401-500	9.0
5,001-10,000	11.8	501-1,000	6.3
Mean-$2,427		**Mean**-$218	

few smaller companies have instituted the long-term performance plans now prevalent among giant corporations. Since most smaller firms are privately held—96% of the INC. survey respondents represented independent private enterprises—there has been little pressure to replace stock options with more sophisticated incentives, such as performance shares, dividend units, or stock appreciation rights. Nonetheless, small company compensation practices will focus increasingly on pay for performance. Discretionary windfalls and routine lump sums are giving way to pay plans tied to company revenue targets and operating results. Among respondents to the INC. survey, close to one out of three reported that they now base executive salary increases solely on merit.

The pay-for-performance trend is materializing in the broader use of short-term incentives or bonuses. Ten percent of the survey respondents indicated that they added an executive incentive plan to their pay programs last year. Another 9% instituted new bonus plans for top management, and more than 6% set up profit sharing for the first time.

More than 77% of smaller companies now maintain executive bonus plans, generally in the form of annual cash awards (only 5% have stock bonus plans). The larger the company, the more likely bonuses are part of the executive pay package—88% of the companies with sales of more than $5 million are bonus-paying, compared with 65% of those with less than $1 million in sales.

Regardless of company size, however, it is clear that optimizing the motivational value of bonuses has become a primary objective. Four out of five smaller firms now peg bonus payments to company profits—the bottom-line results that directly reflect executive performance. Another 14% tie bonuses to sales performance, while only 7% base bonus pay solely on discretionary nods.

Among various newly instituted incentives cited by survey respondents are these:

☐ An annual pretax profit pool: any pretax earnings that exceed 25% of "managed assets" (inventory, receivables, etc.) will be split evenly by four key managers (marine hardware manufacturer)

☐ A bonus plan based on percentage reductions in direct operating costs (structural steel contractor)

☐ Establishment of a pay plan tied to personal productivity ratios (security systems manufacturer)

☐ New incentive bonuses for daily, weekly, and monthly "superstar" sales performance (video equipment wholesaler)

Finally, the shift from discretionary bonuses to short-term, performance-based incentives will encourage the evolution of more sophisticated long-term compensation plans. New wrinkles in deferred compensation and expanded pension plans will lead the list. More than 44% of the survey respondents already offer their executives deferred pay plans, while over 36% have pension programs. The next step will be supplemental pension or retirement plans, which currently exist among only 14% of smaller companies.

Beyond deferred and retirement income, the most likely long-term additions to executive pay packages will be related to equity. The INC. survey shows that stock options are currently offered by only 5% of smaller companies. While the majority of small businesses may not jump on the employee-stock-ownership bandwagon, it's likely that more of their top executives will be picking up nonqualified stock options, dividend units, and phantom or restricted stock during the next few years.

4. *Fringe benefits will continue to be a mixed—and very conservative—bag of perquisites.* As noted, life and medical insurance plans are standard, and any modifications are likely to take the form of additional coverage and more company-paid premiums. Elimination of deductible mental and dental plans, reimbursement of uninsured medical expenses, and unlimited payouts under major medical will become common.

Any new wrinkles in smaller company fringes will probably involve such benefits as company-paid physicals, financial and legal counseling, and more liberal vacation policies.

Two factors support the conservative outlook for executive perquisites in smaller companies. One is management itself, which will continue to give cash-related compensation top priority. As a result, the value of discretionary benefits is likely to remain less than 10% of total remuneration. The other factor—far more significant—is Uncle Sam's perennial war against nontaxable perks. Any that are discovered will suffer the same dismal tax fate imposed on business travel, company cars, clubs and resorts, and low-interest loans. ☐

Bradford Ketchum, Jr., is a senior editor at INC.

Ninety-six percent of the respondents to the INC. survey represent small private companies. Is executive compensation any different in small publicly held firms? To help answer that question, INC. chose a random sample of publicly held companies with sales of up to $25 million. Beginning on page 40, it lists top officers of those companies with information about the amount and nature of their compensation. All data was drawn from company prospectuses. To facilitate comparisons, the roster is divided into four groups ranked by sales volume.

CHANGING "COMP" TO COPE WITH THE CRUNCH

American business found little to celebrate when the books were closed on 1980. Battered by record-high inflation and interest rates, most companies were satisfied to hit the break-even point.

How did last year's sluggish business climate affect executive compensation? Seventy-six percent of the respondents to the INC. survey indicated that they made no pay changes that could be directly related to business conditions. However, among those who did react to the economic slump by modifying top management's compensation, the strategies amounted to bad news in the payroll department.

As one executive noted, it was a "hold-tight" year. Indicative of the severe credit crunch that most smaller enterprises encountered, another respondent reported that top management's cash bonuses were being lent back to the company. Typical of other comments received are these:

☐ "Waived bonuses due to 1980 financial performance; postponed top executive salary increases indefinitely."

☐ "Froze salaries at current levels due to projected decrease in profits."

☐ "Chairman's salary waived for up to four months; president's pay cut by 30% for an indefinite period; no raises for two other executives."

Pay cuts were the most common consequence of last year's lag in business. Of 219 respondents who indicated changes in pay policies due to economic conditions, 15% trimmed salaries, 12% reduced raises, 10% eliminated salary hikes altogether, 9% waived bonuses, and another 5% cut bonuses.

On an upbeat note, it appears that such tactics will be unnecessary in 1981. Overall, four out of five respondents to the INC. survey are counting on business growth this year. Only 14% expect sales or revenues to remain at the same level as last year, and still fewer—5%—predict a decline in volume.

How optimistic is small business about 1981? Twenty-nine percent of the survey participants anticipate that sales will soar by 30% or more, and another 10% are counting on gains of between 21% and 29%. Overall, three out of four smaller businesses are betting on *real* growth in 1981. If the forecasts hold true, executives can count on one other thing—last year's battered paychecks will become fatter paychecks this year.

THE FACTS BEHIND THE FIGURES

This report represents INC.'s first Annual Compensation Survey. It summarizes a national study of executive compensation levels and policies in a broad cross section of smaller business enterprises. The data focuses on four top management functions: chief executive officer, chief operating or manufacturing officer, chief financial officer, and chief marketing officer.

The primary research for the report was conducted in February and March. A four-page questionnaire was mailed to a random sampling of 9,806 INC. subscribers. Excluding undeliverable, incomplete, and late returns (those received beyond a March 31 deadline), the net response rate was 9.4%. Some 902 usable returns were then delivered to an independent computer facility for tabulating and 35 separate cross-reference summaries.

Confidentiality of all information was assured. No company or individual respondent was identified. The usable responses represent 902 companies that provided compensation data on a total of 1,517 executives. They are located in 50 states and the District of Columbia, with 18% headquartered in the Northeast, 28% in the North Central region, 27% in the South, and 27% in the West.

The group also represents more than 450 four-digit Standard Industrial Classifications. Separated into eight broad industry categories, the majority of respondents are in manufacturing (27%) or the wholesale/retail business (24%). Other major groups include service/business (13%), service/professional (12%), and construction (7%). Ninety-one percent are corporations, 6% are proprietorships, and 3% are partnerships. Only 4% are publicly held.

The vital operating statistics of the respondents as a group include the following mean figures:

Net sales/revenues	$3,486,000
Net income (after tax)	$ 267,000
Number of employees	60
Total 1980 payroll	$ 815,000
Total shareholders equity	$1,023,000

Complete results of the INC. survey are available in a 165-page manual entitled INC. *Annual Compensation Study/I.* Anonymity of all respondents is retained. To obtain a copy of the manual, send a written request to: Bradford W. Ketchum, Jr., INC. Magazine, 38 Commercial Wharf, Boston, MA 02110. The cost is $85 ($75 with advance payment).

The INC. staff is grateful to the more than 900 small business executives who participated in this project.

The INC. Annual Compensation Survey

PUBLIC COMPANIES: $156,000 AT THE TOP

Executives of smaller publicly held companies enjoy fatter paychecks and broader perks than their counterparts in smaller private firms. That's the conclusion that can be drawn from an INC. spot survey of executive compensation in the 40 public companies listed below. Average total remuneration of CEOs in these firms was $156,417 last year, compared with $73,400 earned by chief executives in private companies (see page 35).

Selected at random from INC.'s prospectus files of recent public offerings, the roster represents a cross section of smaller businesses in manufacturing, service, and mining industries. For comparisons, the 40 companies are divided into four groups ranked according to fiscal 1980 sales ranging from $1 million to $25 million. Company profitability varies. Six of the firms experienced net losses last year, while four are highly profitable enterprises boasting net income that exceeded 15% of sales. Half of the companies, however, reflect average profitability ranging from 5% to 10%.

Not surprisingly, chief executive pay and corporate profits are directly related. The top officers of the most profitable businesses averaged $365,538 in total remuneration last year. By comparison, CEOs in companies with red ink on their P&L statements earned far less, chalking up average total pay of $113,407.

Indicative of the higher executive pay levels in public companies is the group's average of $106,574 in the salary-and-bonuses column. More than one out of four of the officers listed earned cash income that topped $100,000.

Beyond larger paychecks, degree of ownership is the most significant difference that emerges when the payrolls of public

FY '80 Sales	Company Location (no. of employees)	Executive, title (age)	Salaries, bonuses	Securities, benefits	Contingent remun.	Other*	Common stock (%)
	$1 MILLION TO $4.9 MILLION SALES						
$ 1.2	**Biotech Research Labs**						
	Rockville, MD (30)	Robert C. Y. Ting, VP (51)	—	—	$51,276	L,B,O	24.0%
	Biomedical research						
1.7	**Oxygen Enrichment**						
	Schenectady (39)	Richard H. Blackmer, CHMN/PRES (50)	—	—	38,000	A,S	23.5
	Mfr. respiratory products	Jonathan W. Hedman, VP/TREAS (36)	—	—	29,000	A,S	16.4
1.8	**Biochem International**						
	Milwaukee (35)	Gerhard Von der Ruhr, CHMN/PRES (39)	47,167	3,448	—	E	21.89
	Mfr. medical monitoring equip.	Robert Ricciardelli, VP (34)	37,500	14,191	—	E,B	3.78
2.0	**Nuclear Power & Energy**						
	Riverton, WY (7)	Eli D. Bebout, CHMN/CEO (33)	25,500	1,361	—	—	8.1
	Contract drilling/mining	Nick Bebout, TREAS (29)	10,500	—	—	—	3.2
2.4	**Symbol Technologies**						
	Hauppauge, NY (56)	Shelley Harrison, CHMN/CEO (38)	61,939	11,700	—	A,L,M,O	9.7
	Mfr. laser scanners	Jerome Swartz, PRES (40)	61,939	10,283	—	A,L,M,O	9.5
2.5	**Texas Energies**						
	Amarillo (9)	Lloyd E. Geoffroy, Sr., CHMN (58)	30,000	—	—	A,C,S,O	13.6
	Oil & gas exploration	Lloyd E. Geoffroy, Jr., PRES/TREAS (30)	35,000	—	—	A,C,S,O	13.7
2.5	**Metal Arts**						
	New York (45)	Clifford W. Charlson, PRES/TREAS (29)	—	—	54,632	L	24.7
	Private mint	Stanley J. Dahle, VP (43)	—	—	54,632	A,L,B	24.7
4.2	**Movie Systems**						
	Des Moines (133)	John A. Stephens, PRES/TREAS (40)	—	—	60,500	A,I,O	3.7
	Operator pay TV	Curtis D. Bradley, VP (40)	—	—	75,834	A,I,O	2.2
4.4	**Atours**						
	Miami (69)	Marilyn Rubinson, PRES (56)	58,750	—	—	A	31.25
	Women's apparel shops	Mitchell Rubinson, VP/TREAS (33)	58,750	—	—	A	31.25
4.7	**Quasar Microsystems**						
	Brentwood, NY (47)	Elliot I. Baum, PRES (44)	76,154	—	—	A,I	42.0
	Mfr. telephone products	John Cotoggio, VP (44)	56,154	—	—	A,I,O	1.0

*Other key: **A**–Automobile; **C**–Club membership; **E**–Employee stock ownership or purchase plan; **I**–Incentive plan; **L**–Life insurance; **M**–Medical reimbursement; **P**–Pension plan; **S**–Profit sharing; **B**–Stock bonuses; **O**–Stock options.

PUBLIC COMPANIES *(from page 40)*
companies are compared with those of privately held businesses. Stock options, for example, are not an important factor in pay packages of private companies, where executive ownership generally exists. However, as this list of public firms indicates, top management's equity interest is far more limited.

Among chief executive officers, ownership—chiefly in the form of common stock—ranges from 2% to 70%. The average, however, is less than 20%. Only two CEOs own controlling interest in their companies, while almost half of the top officers own 10% or less. Consequently, stock option plans are part of the pay packages in three out of four companies listed.

As is true among closely held businesses, executive pay in public firms is proportionate to company size. For example, the average total compensation for chief executives of companies in the smallest sales category—$1 million to $4.9 million—was $52,128 last year. CEOs in the $5 million to $9.9 million group earned average total pay of $107,759. In comparison, those in the $10 million to $14.9 million range earned $178,804, while those in the largest sales category—$15 million to $24.9 million—averaged $270,646 in total remuneration.

Greater sales volume also means fatter paychecks for No. 2 executives. Total compensation for the second officers listed ranged from $10,500 to $238,904. The lowest paid officer in this case is found in the smallest sales group, while the highest paid No. 2 executive is in one of the biggest companies on the list. In the smallest companies, the second in command averaged total pay of $49,506 last year, while those in the largest revenue category chalked up $135,198 in total compensation.

As the tables also show, the larger the company the broader the total pay package. Stock options and company cars are the staples among the noncash forms of compensation in those companies with less than $10 million in sales. In firms with sales of more than $10 million, such additional perks as club membership, stock bonuses, and medical reimbursement plans appear on the list.

Executive benefits and perks for the group as a whole are less sophisticated and more conservative than those found in giant corporations. Three out of five of the companies listed furnish automobiles for their top executives. But only one, for example, has instituted a plan which underwrites executives' financial and legal fees (up to $10,000 a year). As testimony to the ever tighter tax clamp on perks, only one plane, yacht and lodge could be found among the 40 firms—all three amenities owned by the same company. ☐

COMPENSATION GLOSSARY

Dividend unit—A unit equivalent to shares of company stock which becomes the basis for payment of an amount equal to dividends declared on stock.

Medical reimbursement—Payment of medical expenses not covered by insurance or otherwise compensated.

Phantom stock—Grant of units rather than shares of stock. Initial value of unit is equal to book or market value of stock on date unit is granted. Difference between initial value and value at specified future date is paid in cash or equivalent stock. Payment can be limited to appreciated value, or it may combine appreciation and initial value.

Restricted stock—Grants of stock contingent on certain conditions for specified period, generally related to term of employment.

Stock appreciation rights—Privilege granted with nonqualified stock option as alternative to purchasing shares under option. Payment is in cash or stock equal to amount by which current value of optioned shares exceeds initial price.

FY '80 Sales	Company Location (no. of employees)	Executive, title (age)	Salaries, bonuses	Securities, benefits	Contingent remun.	Other*	Common stock (%)
	$5 MILLION TO $9.9 MILLION SALES						
5.3	**Electro-Biology**						
	Fairfield, NJ (145)	Thomas A. Duerden, CHMN/CEO (51)	121,667	30,816	–	O	4.8
	Mfr. medical equip.	John A. Ryaby, PRES (46)	76,980	–	–	O	5.6
5.9	**Computer Entry Systems**						
	Silver Spring, MD (85)	Brian T. Cunningham, PRES (44)	107,826	–	–	I,O	8.0
	Mfr. OCR equip.	John G. Guthrie, VP (44)	87,945	–	–	I,O	3.6
6.4	**HEI**						
	Chaska, MN (199)	Robert L. Geib, PRES/TREAS (55)	86,000	–	–	I,O	7.38
	Mfr. optoelectronic comp.	Jay A. Wheeler, VP (59)	60,300	–	–	I,O	1.41
6.7	**Gamma Biologicals**						
	Houston (91)	David E. Hatcher, PRES (58)	–	–	105,516	A,L,O	10.0
	Mfr. medical products	Lawrence E. Letwin, VP (59)	–	–	50,532	A,L,O	6.0
7.2	**KLA Instruments**						
	Santa Clara (130)	Kenneth Levy, PRES (38)	75,000	360	–	A,E,I,O	10.8
	Mfr. test systems	Robert R. Anderson, VP/TREAS (42)	73,519	360	–	A,E,I,O	8.8
7.4	**Numex**						
	Hartford (88)	David Duquette, PRES (36)	71,500	1,267	–	O	26.9
	Mfr. machine tools	James F. Duquette, VP (37)	50,700	1,030	–	O	12.4
7.8	**Yankee Oil & Gas**						
	Boston (53)	Paul J. Montle, PRES/TREAS (33)	37,500	1,602	–	A,C,M	33.38
	Oil & gas production	Graham E. Jones, VP (47)	84,505	2,848	–	A,C,M	22.67
8.6	**Tocom**						
	Irving, TX (295)	Michael R. Corboy, PRES (50)	60,000	190,000	–	E,O	5.57
	Mfr. communications equip.	Fred Burton, Jr., VP/TREAS (60)	53,000	–	–	E,O	.30
9.4	**TSI**						
	Shoreview, MN (202)	Leroy M. Fingerson, PRES (48)	90,493	540	–	I,S,O	9.5
	Mfr. research instruments	Lowell D. Nystrom, VP (46)	76,196	660	–	I,S,O	9.0
9.6	**Cetus**						
	Berkeley (276)	Ronald E. Cape, CHMN/CEO (48)	97,500[1]	–	–	B,O	4.2
	Genetic engineering	Peter J. Farley, PRES (40)	97,500[1]	–	–	B,O	3.9

Footnotes: **1**–Includes cash bonuses paid in Dec. '79; **2**–Includes cash bonus of $66,750; **3**–Now chairman-pres. and first VP-secy.-treas., respectively; **4**–Does not include cash royalties of $1,427,556 and $394,792, respectively; **5**–Includes cash bonuses of $56,000 and $40,000, respectively, accrued in '80 payable in '81.

*Other key: **A**–Automobile; **C**–Club membership; **E**–Employee stock ownership or purchase plan; **I**–Incentive plan; **L**–Life insurance; **M**–Medical reimbursement; **P**–Pension plan; **S**–Profit sharing; **B**–Stock bonuses; **O**–Stock options.

(continued page 44)

PUBLIC COMPANIES *(from page 42)*

FY '80 Sales	Company Location (no. of employees)	Executive, title (age)	Salaries, bonuses	Securities, benefits	Contingent remun.	Other*	Common stock (%)
	$10 MILLION TO $14.9 MILLION SALES						
10.5	**Silicon Systems**						
	Tustin, CA (123)	Gene B. Potter, CHMN/CEO (43)	67,071	960	–	A,E,O	17.7
	Mfr. integrated circuits	Harvey Cohen, PRES (47)	71,039	11,768	–	A,E,L,O	4.7
10.5	**Service Fracturing**						
	Pampa, TX (121)	Jerry K. Guinn, PRES (51)	126,119[2]	33,870	130,500	A,I,L,P,B,O	6.31
	Oilfield services	Paul N. Brown, Jr., VP (40)	73,034	1,233	–	A,I,P,O	–
10.9	**Farm Fish**						
	Louise, MS (193)	Henry J. Williams, EXEC DIR (44)	125,519	–	–	A,I	1.99
	Catfish breeder						
11.4	**Duralith**						
	Millville, NJ (340)	Joseph L. Carley, CHMN (76)	207,916	–	32,700	C,P,S	33.8
	Mfr. control panels	Francis W. McKenna, PRES (45)	99,539	–	24,885	P,S	–
11.4	**Pizza Time Theatre**						
	Sunnyvale, CA (1129)	Joseph F. Keenan, PRES (39)	75,000	–	–	A,O	3.3
	Restaurants	Gene N. Landrum, VP (46)	62,077	–	–	A,O	–
11.6	**Faraday Labs**						
	Hillside, NJ (118)	Arnold Suresky, PRES (47)	174,843	–	–	O	50.1
	Mfr. vitamins & supplements						
11.8	**CGA Computer Associates**						
	Marlboro, NJ (368)	Bernard H. Goldsmith, PRES/TREAS (37)	135,000	20,000	9,600	S,B,O	14.4
	Computer consultants	Lawrence S. Robinson, VP (38)	136,227	20,000	12,770	S,B,O	1.8
12.1	**AES Technology**						
	Elk Grove Village, IL (135)	Martin T. Abrams, CHMN/VP/TREAS (50)	84,000	5,186	–	A,I,L,O	28.4
	Mfr. copying equip.	Lee A. Goldboss, PRES (41)	84,000	4,708	–	A,I,L,M,O	35.8
12.3	**KenCope Energy**						
	Perryton, TX (270)	Kenneth A. Ford, CHMN[3] (49)	233,858	–	12,004	A,C,E,O	41.0
	Oilfield service, exploration	Thomas N. Ford, Jr., PRES/TREAS[3] (37)	132,201	–	6,732	A,C,E,O	12.0
14.5	**Intelligent Systems**						
	Norcross, GA (177)	Charles A. Muench, Jr., CHMN (43)	233,882	8,359	18,568	A,E,I,M	40.7
	Mfr. terminals & computers	David M. Deans, VP (41)	67,940	1,128	5,355	A,E,I,M,O	1.4
	$15 MILLION TO $24.9 MILLION SALES						
16.1	**Texscan**						
	Indianapolis (850)	Carl N. Fehike, PRES (53)	87,368	33,576	–	I,M,O	5.56
	Mfr. cable TV equip.	James A. Lukach, EXEC VP/SECY (50)	87,368	33,164	–	I,M,O	5.41
16.2	**HCC Industries**						
	Sherman Oaks, CA (325)	Jack Goldfarb, PRES (65)	261,902	9,736	–	A,I,P,S,O	6.03
	Mfr. electronic devices	Michael Pelta, VP (57)	228,365	10,539	–	A,I,P,S,O	14.38
20.6	**Western Digital**						
	Newport Beach, CA (760)	Charles W. Missler, CHMN/PRES (46)	80,525	223,468	7,496	E,L,O	2.0
	Mfr. digital components	Joseph Baia, SR VP-OP (49)	58,750	139,368	10,933	E,L,O	1.4
20.9	**American Metals Service**						
	Miami (70)	Armando Riesgo, PRES (49)	80,856	–	22,337	A,I,M,O	44.5
	Distributor aluminum alloys	Thomas A. King, VP (37)	58,180	–	10,116	I,O	1.4
21.1	**STSC**						
	Bethesda (374)	Daniel Dyer, CHMN/PRES (51)	178,250	12,256	3,178	E,I,L,M,S,O	8.5
	Remote computer services	Patrick Gehl, EXEC VP–MKTING (44)	140,916	10,802	2,496	E,I,L,M,S,O	–
21.9	**Prairie Producing**						
	Houston (47)	George F. Watford, CHMN/CEO/TR (59)	104,166[4]	92,924	–	A,C,I,L,O	29.0
	Oil & gas exploration	J. Don McClelland, EXEC VP (51)	77,708[4]	1,398	–	A,C,I,O	2.5
22.8	**Tandon**						
	Chatsworth, CA (578)	Sirjang Lal Tandon, PRES/TREAS (39)	64,260	1,769	–	A,O	19.1
	Mfr. disk drives	Gerald A. Lembas, VP/SECY (41)	52,020	440	–	A,O	8.5
23.2	**Nutri/System**						
	Melrose Park, PA (250)	Harold Katz, PRES (43)	985,098	82,006	60,131	A,C,L,M,P	70.0
	Weight loss centers	Norman Amster, MKTING DIR (38)	112,120	10,323	4,808	A,L,P,O	–
24.2	**Team**						
	Houston (600)	H. Wesley Hall, CHMN (41)	80,550	67,200	–	A,C,I,O	2.9
	Oilfield & energy services	Robert L. Thompson, PRES (44)	80,550	100,800	–	A,C,I,O	5.4
24.8	**Autoclave Engineers**						
	Erie, PA (314)	James C. Levinson, PRES (52)	157,904[5]	9,508	–	A,C,E,I,L,P	6.6
	Mfr. autoclaves	Joseph F. Allison, EXEC VP/GEN MGR (52)	113,608[5]	7,217	–	A,C,E,I,L,P	3.8

Footnotes: **1**–Includes cash bonuses paid in Dec. '79; **2**–Includes cash bonus of $66,750; **3**–Now chairman-pres. and first VP-secy.-treas., respectively; **4**–Does not include cash royalties of $1,427,556 and $394,792, respectively; **5**–Includes cash bonuses of $56,000 and $40,000, respectively, accrued in '80 payable in '81.

*Other key: **A**–Automobile; **C**–Club membership; **E**–Employee stock ownership or purchase plan; **I**–Incentive plan; **L**–Life insurance; **M**–Medical reimbursement; **P**–Pension plan; **S**–Profit sharing; **B**–Stock bonuses; **O**–Stock options.

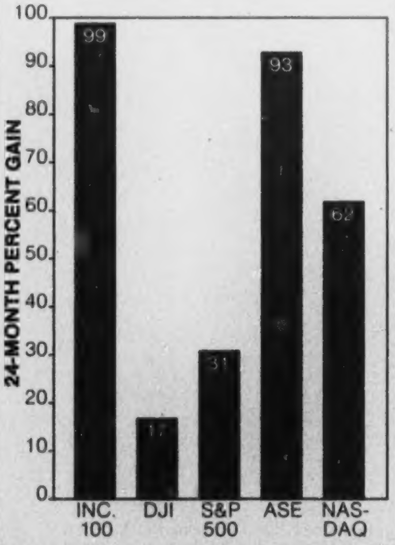
WHO SAYS STOCKS CAN'T BEAT INFLATION?

While the Consumer Price Index grew by 25%, stock prices of the original INC. 100 nearly doubled.

When INC. compiled its first listing of the country's 100 fastest-growing publicly held small companies in April 1979, there were many unanswered questions. Could the meteoric growth rates—a median 44% compounded annual growth in sales during each of the previous five years—be sustained? Or would a number of these small high-fliers fall by the wayside? Most important for investors, how would these young companies, for the most part thinly capitalized, fare in the open market? Would spectacular growth be rewarded with appropriate increases in stock prices?

Two years is not a long history, but it is more than adequate time to establish long-term capital gains and losses under current laws. And for anyone who invested across the board in the original INC. 100 stocks back in May 1979, "gain" ought to be emphasized in capital letters today. If you had invested $10,000 in the group on May 1, 1979—$100 in each stock—you would have made a handsome profit of $9,903 if you sold on May 1, 1981—a 99% gain in just 24 months. This enviable record

INC. 100 VS. POPULAR AVERAGES, 1979–81



THE 1979 INC. 100: TRACKING THE 24-MONTH STOCK PERFORMANCE

Rank	Company	Stock splits/dividends, status change	Bid/close 5/1 '79	Bid/close 5/1 '81	P/E ratio 5/1 '79	P/E ratio 5/1 '81	24-month value of $100 invested
1	**Sonic Industries**		5	1(a)	NA	NA	20
2	**Volunteer Capital**		15¾	8¼	19	NE	52
3	**Geneve**		13½	12½	6	NA	93
4	**Tandem Computers**	split 2:1, 7/18/80	14⅜	85¼	33	56	593
5	**Cray Research** (N)	split 3:1, 12/19/80	9.66	36¼	21	29	375
6	**Amdahl** (A)		40¾	38½	13	26	94
7	**Med General**	filed for Ch. XI, 5/6/80	13¼	.01	26	NA	0
8	**Century 21 Real Estate**	25% stock dividend, 6/22/79; merged by Trans World (N), 10/31/79, basis: preferred stock or $28.50 cash	16.10	28½	10	NA	177
9	**Lear Petroleum** (N)	split 4:3, 5/31/79; split 3:2, 2/20/80	14	26½	21	25	189
10	**Envirodyne Industries**		3⅜	⅝	NE	NE	19
11	**Texas American Oil**	merged by Texas American Energy (A), 6/16/80, basis: 1 share for 1 share	7⅜	11	12	15	149
12	**Prime Computer** (N)	100% stock dividend, 6/11/79; 50% stock dividend, 4/4/80; 50% stock dividend, 12/19/80	8.14	42½	21	29	522
13	**Transnet**		2	4½	NA	12	225
14	**Mutz**	5% stock dividend, 7/15/79; 5% stock dividend, 7/15/80; merged by Excepticon, 3/31/81, basis: 1.55 shares for 1 share	6.46	10.46	10	NA	162
15	**Carlsberg Capital**	50% stock dividend, 3/21/80; name changed to Carlsberg Corp., 7/1/80	3	6½	3	4	217
16	**Salem National**		4¼	2	18	NE	47
17	**Econo-Therm Energy Systems**		1½(a)	3	NA	NA	200
18	**Tomlinson Oil**	10% stock dividend, 9/21/79; 50% stock dividend, 9/30/80	3.94	9½	9	NA	241
19	**Federal Express** (N)	100% stock dividend, 10/31/80	12⅞	63¼	10	22	491
20	**Jhirmack Enterprises**	10% stock dividend, 8/17/79	11.36	12½	9	14	110
21	**Surgicot**	merged by Squibb (N), 6/22/79, basis: .502 shares for 1	29	37⅛	19	NA	128
22	**Rolm** (N)	split 2:1, 8/22/80	17¼	44½	28	31	258
23	**Teleconcepts**		4¼	5½	NA	NA	129
24	**Golden Oil**		1⅜	3⅜	NA	NA	245
25	**Western Standard**		¼(a)	⅛(a)	NA	NA	50
26	**Galveston-Houston** (N)	split 3:2, 7/25/80	21.17	32⅝	12	12	154
27	**Mini-Computer Systems**		5	2⅜	NE	NE	48
28	**Universal Security Instruments**		2⅞	10½	NE	48	442
29	**Winston Network**		3¾	17	NA	NA	453
30	**General Care**	merged by Hospital Corp. of America (N) 9/9/80, basis: $18 cash	7¼	18	8	NA	248
31	**MGF Oil**	3% stock dividend, 7/16/79; 2% stock dividend, 1/24/80; 100% stock dividend, 1/19/81	6.90	14¾	11	26	214
32	**Compact Video Systems**		7⅛	19	9	16	267
33	**Sonic Development**		6¼	2¼	NA	NA	36
34	**Welltech**	merged by Hanna Mining (N), 6/6/79, basis: $39 cash	38⅝	39	18	NA	101
35	**Teltronics Services**		3	⅛	7	NA	4
36	**Verbatim**		27½	20¾	18	NE	75
37	**Nutrition World**		2¼	3⅜	NA	NA	161
38	**Wainoco Oil** (N)	split 2:1, 10/31/79	10.44	24⅞	15	37	238
39	**Rampart General**		4	1¼	6	NE	31
40	**Vanderbilt Energy**	15% stock dividend, 10/8/79; 50% stock dividend, 4/20/81	4.06	8¼	72	37	203
41	**Raycomm Industries**		2¾	2½	5	NE	91
42	**Xidex**	split 2:1, 1/24/80	12¾	27¾	13	18	218
43	**Adobe Oil & Gas** (A)	split 5:4, 5/30/80; split 3:2, 1/23/81	14.13	33½	25	23	237

Prices shown are over-the-counter except where noted, and are adjusted for splits, dividends, and mergers

a best available quote NA not available or not applicable NE negative earnings N New York Stock Exchange A American Stock Exchange

INVESTING *(from page 91)*

was posted even while the investment community and the public wondered whether common stocks would ever again be the inflation hedge they were during the early 1960s. Based on this group of stocks, anyway, the answer would appear to be an emphatic "yes."

If you decided not to sell your hypothetical unweighted portfolio of the original INC. 100, you would today own 85 stocks from the 1979 group. Of the 15 companies that have disappeared from the original list, only one (Med General, #7) went the way of bankruptcy. Stockholders of 6 other companies received healthy cash payments for their shares in merger transactions, and 7 more names from the original list merged into larger companies on the basis of stock swaps. Ten companies—Tandem, Cray, Volunteer Capital, Wainoco Oil, Prime, Rampart General, EconoTherm Energies, Tomlinson Oil, Rolm, and Golden Oil—have appeared on each of the three INC. 100 lists so far compiled, proving that even spectacular growth can sustain itself for a number of years.

Even spectacular growth can sustain itself for a number of years.

The accompanying bar chart shows that the American Stock Exchange Index, increasing over the period by 93%, almost equaled the 99% growth of the INC. 100 stocks. This strong showing, not repeated in comparative studies of the major indices with the 1981 and 1980 INC. 100 lists (See INC., May, page 161 and June, page 126) can be largely attributed to the rapid price increases of smaller domestic and Canadian oil stocks traded on the Amex during the period. Once the oil group backed down, as it has during the past several months, the NASDAQ Composite became the only index to give the INC. 100 "average" a modest run for its money.

As for the Dow Jones Industrials, its annual compound gain of 8% for the two years suggests what investors are thinking of when they complain that common stocks can't keep pace with inflation. That surely doesn't seem to be the case with smaller growth stocks—tight money and an uncertain economic climate notwithstanding. □

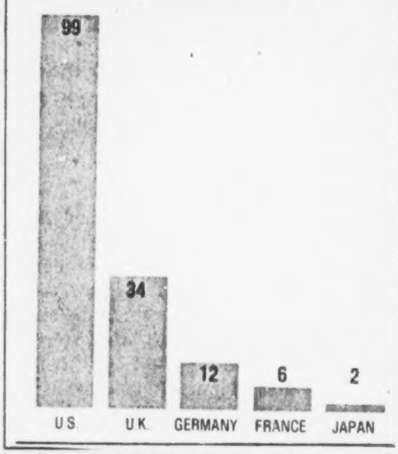
Rank	Company	Stock splits/dividends, status change	Bid/close 5/1		P/E ratio 5/1		24-month value of $100 invested
			'79	'81	'79	'81	
44	**Waters Associates**	merged by Millipore, 5/9/80, basis: 1 share for 1 share	31½	32¼	21	24	102
45	**Microdata**	merged by McDonnell Douglas (N), 11/2/79, basis $32 cash	21⅜	32	9	NA	150
46	**Computer Task Group**	10%stock dividend, 7/7/80	5.91	18¼	NA	16	309
47	**Time Sharing Resources**	split 4:3, 1/16/81	4.69	10	6	19	213
48	**Universal Resources**	split 3:2, 10/10/80; split 3:2, 1/27/81	7.11	27½	13	25	387
49	**Nytronics**	merged by Bastian Industries, 11/24/80, basis: .375 share for 1 share	4.33	5⅜	NA	NA	124
50	**Dranetz Engineering Laboratories**	50% stock dividend, 10/10/80	6.33	19½	10	19	308
51	**U.S. Surgical**	split 2:1, 12/8/80	9¾	32¾	18	34	336
52	**National Computer Systems**	25% stock dividend, 1/2/80; split 5:4, 1/2/81	13.28	18½	17	17	139
53	**Stanwick**		3⅝	4	NA	NA	110
54	**International Research & Development**		12½	10	16	26	80
55	**Graphic Scanning**	50% stock dividend, 1/23/81	14.83	25⅞	39	50	174
56	**Pizza Inn** (A)		6¼	7⅝	10	13	122
57	**McMoRan Oil & Gas**	split 2:1, 5/19/80; merged by Freeport Minerals (N), 4/7/81, basis: 1 share for 1 share	11¾	34¾	85	13	296
58	**LRC**	merged by Cutler Hammer (N), 7/2/79, basis: $4.50 cash	3⅝	4.50	12	NA	124
59	**Save-Way Industries**	25% stock dividend, 10/12/79; split 4:3, 3/14/80	6.60	11⅛	11	9	169
60	**California Microwave**		16¼	28¼	15	19	174
61	**FMS Management Systems**		2(a)	1¾	NA	NA	88
62	**Callon Petroleum**	split 3:2, 12/1/80	3.60	12¼	11	64	340
63	**Superior Industries International** (A)	25% stock dividend, 7/12/79	12.30	4½	7	NE	37
64	**Merry Companies**	10% stock dividend, 9/15/79; 10% stock dividend, 3/15/80; 10% stock dividend, 9/15/80; distribution 1/10th share Merry Land & Investment for each share Merry Companies, 2/15/81	10.52	17½(a)	4	NA	166
65	**Tratec**	initial liquidation distribution of $10.04 for share, 6/79	9½	9(a)	17	NA	95
66	**Telecredit**	split 3:2, 3/12/81	10.33	30	17	30	290
67	**Techtran Industries**		3½(a)	5⅛	NA	10	146
68	**Cobe Laboratories**		27½	34	13	12	124
69	**Computer Communications**		7⅝	2¼	NE	NA	30
70	**PaR Systems**		8	24¾	9	18	309
71	**Anacomp**	7% stock dividend, 8/17/79; split 5:4, 3/28/80	12.15	20	21	19	165
72	**Systems Engineering** (A)	merged by Gould (N), 12/18/80, basis: 2 shares for 1 share	7.44	26⅝	14	NA	358
73	**Valleylab**		16	21¼	20	28	133
74	**Magna Pictures**		⅞(a)	1¾(a)	NA	NA	200
75	**Mego International** (A)		9	3⅛	5	NE	35
76	**CACI**	1 share CACI N.V. distributed for each share held, 2/27/81	4	19	NA	14	475
77	**Scientific Time Sharing**	name changed to STSC, 11/79	7¼	20½	10	21	283
78	**Posi-Seal International**		7¼	6½	20	12	90
79	**Petro-Lewis** (A)	50% stock dividend, 12/25/79; 10% stock dividend, 3/14/80; split 2:1, 10/20/80	4.84	21	12	14	434
80	**Thermal Industries**		8(a)	14	NA	NA	175
81	**Penril** (A)		10¼	14¾	11	11	144
82	**Robinson-Nugent**	10% stock dividend, 7/20/79; split 3:2, 2/28/80	15¾	18½	14	20	117
83	**American Quasar Petroleum**	split 2:1, 12/1/80	11.81	26⅛	71	NA	221
84	**Trans Delta**	merged by Petro-Lewis (A), 9/24/80, basis: $21.43 cash	5⅛	21.43	NA	NA	418
85	**Granger Associates** (A)		11¼	27⅞	NA	30	248
86	**Modular Ambulance**		1¼(a)	¾(a)	NA	NA	60
87	**Osmonics**	50% stock dividend, 9/19/80	5.66	15¾	21	35	278
88	**Custom Alloy** (A)		2⅞	12½	18	16	435
89	**Autotrol**		17	6⅞	11	NE	40
90	**Computer Automation**		18	15½	19	11	86
91	**Penn Virginia**	split 2:1, 11/21/80	33	53	22	23	161
92	**Norstan**	10% stock dividend, 7/6/79; 10% stock dividend, 6/30/80; 50% stock dividend, 11/21/80	5.79	15	15	21	259
93	**Anderson Jacobson** (A)		8⅛	16½	12	17	203
94	**Galaxy Oil**		8⅞	10⅝	NA	NA	120
95	**CPT**	50% stock dividend, 12/31/79	12.33	50	15	23	406
96	**Transcontinental Oil** (A)		10⅛	15⅝	9	19	152
97	**Woods Petroleum** (N)	split 2:1, 3/17/80	14.81	28⅞	15	23	195
98	**Wham-O Manufacturing**		4½	8½	5	3	189
99	**Electronic Modules**		5¼	27½	6	21	524
100	**Datascope**	split 2:1, 9/25/80	7	24½	23	25	350

Prices shown are over-the-counter except where noted, and are adjusted for splits, dividends, and mergers
a best available quote NA not available or not applicable NE negative earnings N New York Stock Exchange A American Stock Exchange

produce a greater and more direct return than the same investment at any other point in the science and technology structure. *Yet these firms are the recipients of only three to four cents of every federal dollar spent on R&D.*

Fortunately, some of our national leaders are alert to the urgency of the needed correction. A bill currently pending in Congress, introduced by Sen. Warren Rudman (R–N. H.), one of the Senate's more promising new members, would go a long way toward addressing the problem. Twenty-four other senators have joined Senator Rudman in sponsoring the bill, including Sen. Edward Kennedy (D-Mass.), who had a bill of his own on this same subject in the last Congress. They are Senators Hatch (R-Utah), Baucus (D-Mo.), Hart (D-Colo.), Weicker (R-Conn.), Huddleston (D-Ky.), Hayakawa (R-Calif.), Bentsen (D-Tex.), Glenn (D-Ohio), Garn (R-Utah), Riegle (D-Mich.), Tower (R-Tex.), Hatfield (R-Oreg.), Heinz (R-Pa.), Moynihan (D-N. Y.), Danforth (R-Mo.), Tsongas (D-Mass.), Dole (R-Kans.), Bradley (D-N. J.), Warner (R-Va.), Chafee (R-R.I.), D'Amato (R-N.Y.), Abdnor (R-S.Dak.), and Metzenbaum (D-Ohio).

U.S. BASIC SCIENCE PREEMINENCE: NOBEL AWARDS, 1950-80 (By individual winner)

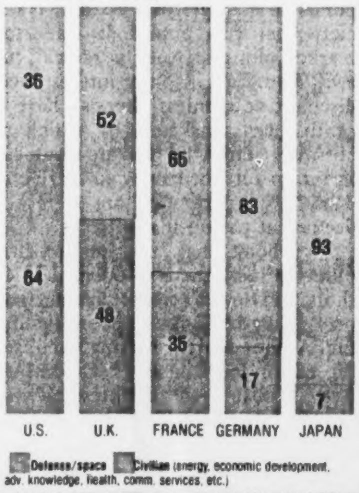


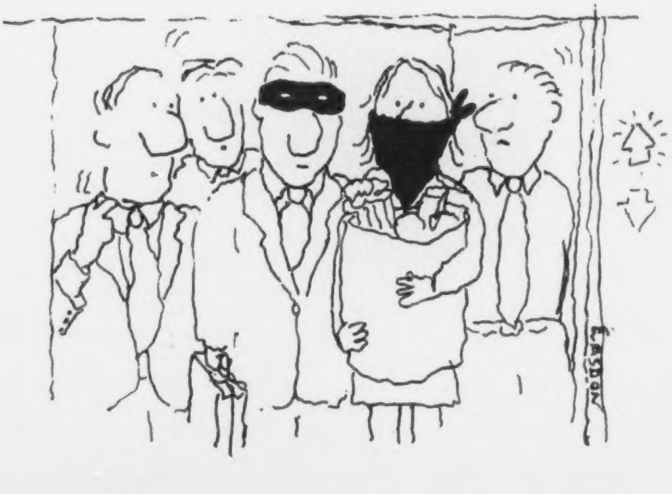
It's a modest measure *which will not add one new dollar to the federal budget*. What it will do is redirect a tiny part of the federal dollars now being spent on research and development. Over a three-year period it will increase small business's share of such expenditures to at least 1% of what is now spent by every federal agency that spends more than $100 million annually for research and development. What's equally important is that it models this gradual expansion on the highly regarded National Science Foundation's Small Business Innovation Research Program. With a minimum of bureaucratic fuss, that program has proved itself to be a good taxpayer investment: In less than five years it has resulted in innovative research that is already supported by more private business dollars than the federal dollars spent to seed it.

In our next issue we will devote a special section to some of the work going on in companies participating in the program. The section will be called *"From the Small Business Grass Roots: The Renaissance of American Innovation and Productivity."*

Passage of the Rudman bill is a must for small business in the 97th Congress. This is the kind of step, we are confident, that would earn its supporters a Nobel Prize for foresight, if one were given. ☐

GOVERNMENT R&D: U.S. DEFENSE/SPACE SHIELD VS. OTHER NATIONAL GOALS
(1974-76 NSF est.)





THE MAJORITY OF AMERICANS ARE HONEST. THIS YEAR.

In a recent survey, two out of five job applicants were admittedly "a little dishonest."
Soon, dishonesty may be the "in" thing. What happens then?
The possibilities range from continued inflation to the loss of our political freedom, says *Common Sense & Everyday Ethics*. It's a new 36-page booklet from the Ethics Resource Center, a non-profit Washington, D.C. research corporation.
Common Sense & Everyday Ethics is for anyone who needs a simple but authoritative guide to making ethical decisions in everyday life.
And for anyone who wants to know what one person can do.
Send your name, address and $1 for one copy, $10 for a dozen.

ETHICS RESOURCE CENTER.
1730 Rhode Island Avenue NW, Washington, D.C. 20036

MILTON D. STEWART: THE BUCK STOPS HERE

NOBEL PRIZES AREN'T ENOUGH

Better support of small company R&D will help us lead the world in innovative products as well as basic research.

On page 114 there's a chart of which every American can be proud. It shows that no fewer than 99 Nobel award winners in physics, chemistry, and the medical sciences over the past 30 years were Americans. That is more than half of all the winners in these fields, and two-thirds of the five nations' winners shown in the chart.

Japanese won two Nobel prizes during this same period. Yet Japan is the country that is presently our toughest competitor in industrial applications of science and technology. How can the United States, with such a long, probably unassailable lead in the basic sciences, find itself so hard pressed by another nation which has trailed so far behind?

Part of the answer is that the United States is in effect the basic science laboratory for the whole world. It takes only 30 days for the learned journals with basic science results to girdle the globe. And there are countries now that move much more effectively from basic science through applied science to production lines than we do. One of them is Japan, which has done a brilliant job of targeting research to market applications.

A second chart on the same page gives another part of the answer. It shows that in research and development we are still the defense shield for the free world. Almost two-thirds of our government R&D dollars are devoted to defense and space. Japan spends 7%. The rest of the free world has obviously been able to spend more government money strengthening its civilian research and development than we have—because we have assumed the defense burden.

A third part of the answer to the question is to ask another: Who would win a Nobel Prize for foresight in national science and technology policies that best met the needs of a country's citizens? For relevance to innovation and productivity of investment in research and development? For the application of science to industry? Ask our unemployed steel workers. Ask our unemployed auto workers. Ask any American businessman who, in the largest energy market in the world, finds himself paying higher and higher prices for petroleum.

Our leaders of government and industry might not finish last in this prize competition. But not even the most devout American chauvinist can really believe that we would come in first, given recent history.

Since World War II, an efficient opinion-making machinery based in the universities, in large government laboratories, and in big companies has fought hard and well to keep federal expenditures in support of basic science at a high and stable level.

We have done far less well, however, in our support of small-scale industrial creativity in nationally needed areas. Small high-technology firms are notably more cost effective in developing new products and new processes than are the capital-heavy bureaucracies of government, large business, and even large universities.

As a result, our national support structure for science and technology has been badly out of balance for years. It has been, to say the least, unresponsive to national needs. Now we're paying for it.

Small high-technology firms are a critical bridge between basic science and applied technology; between big-ticket research and development and smaller, less costly ways of getting the same things done. The premium for them is always the biggest bang for the smallest buck. Their goal is always the greatest technological leap at the lowest cost. They are not hog-tied to massive financial and psychological commitments to existing technologies. Inertial bureaucratic pressures against change do not afflict them. They are the leanest, meanest way to technological progress. A dollar invested at this level of applied science and technology is likely to

7/27/81 C 4687-1

THE MAGAZINE FOR
GROWING COMPANIES

Inc.

STAN MASON GROWS OIL ON TREES

Innovators like Mason are the key to our future growth: An INC. Special Report looks at their role in our economy.

AUGUST 1981

CONTENTS

VOL.3,NO.8

DEPARTMENTS

From the editor 7
Small business innovation: The need is critical; the time is now.

Letters 10
The INC. 100: We missed a trio of winners; Why banks treat small business the way they do.

Speaking out 12
Pension plans: It's time Congress created retirement security for professionals and small companies.

Economic issues 14
Deficit spending steals money from small companies.

News & trends 18
What does prime rate mean? congressman asks; MESBICs, loan programs face the budget axe; Pollsters find small business pessimistic; Enforcing regflex: Will the SBA be aggressive?; Big corporations seek small businesses' help.

Washington update 26

Mind & body 67
Take the pain out of air travel.

Time out 71
Holidays for risk-takers.

Investing in growth companies 77
INC.'s Second 100 are tops in the market.

New issues 79
Oil and high-tech offerings are still hot.

Street talk 80
While buying stocks of small, high-flying companies may seem chancy, the payoffs may be anything but.

Venture capital 83
What venture capitalists want from you.

The law 87
Ten rules for buying real estate.

Taxes 90
The best tax shelter money can buy.

Ideas you can use 93
Protect your eyes against glare; Advertising dollars & sense; Manage your time; One way to pick new markets.

Books 97
How much is your business worth?

The buck stops here 100

Cover photo
David Buffington

Issue editors
Sharon Frederick
Sara Delano

INC. Special Report: Small Business Innovation

How our nation can compete
Technology entrepreneurs will lead the way. 28

Stanley Mason is growing oil on trees
Entrepreneurs like Mason are solving our "insolvable" problems. 30

Why bureaucrats avoid small business R&D 36

Eight who innovate
Today's small business R&D is helping shape tomorrow. 40

James A. Browning: Hunting new markets with a supersonic spray gun.

The more they spend on R&D, the faster they grow
Sizing up R&D spending in 52 smaller companies. 44

Zane Tankel wrote his own rules for managing people
They're a little unorthodox. But Tankel has learned how to build a strong organization without stifling his people. 46

Winning is a state of mind at Nike
Three running enthusiasts teamed up and turned the winner's attitude into a corporate philosophy. 52

How to uncover the holes in your accounting
Join Sherlock Holmes as he investigates a typical company's controls. 59

Pirsch & Sons proves that quality pays
They make every fire engine by hand, and that, says the owner, is why the company has been around longer than any other. 65

COPYRIGHT © 1981 BY INC. PUBLISHING COMPANY All rights reserved. INC. is published monthly by Inc. Publishing Company. ISSN: 0162-8968. Editorial and executive offices at 38 Commercial Wharf, Boston, MA 02110. Telephone (617) 227-4700. Bernard A. Goldhirsh, President; John W. Carlson, Vice-President; Norman Raben, Vice-President; William C. Taylor, Vice-President. ☐ **SUBSCRIPTION:** One-year subscription rate for U.S. and possessions, $18.00; Canada, $30.00. All other countries, one-year subscription rate $45.00, cash orders only, payable in U.S. currency. Forms 3579 and all subscription correspondence should be addressed to INC. Magazine, P.O. Box 2538, Boulder, CO 80322, (800) 525-0643. Please allow at least six weeks for change of address. Include your old address as well as new, and enclose if possible an address label from a recent issue. ☐ Controlled circulation postage paid at Boston, Mass., and at additional mailing offices. Material in this publication may not be stored or reproduced in any form without permission. Requests for permission should be directed to Rights and Permissions Editor, INC., 38 Commercial Wharf, Boston, MA 02110.

THE MORE THEY SPEND ON R&D, THE FASTER THEY GROW

Sizing up R&D spending in 52 smaller companies.

You can argue, as Stanley Mason does on page 30, that government has an important role to play in providing seed capital for innovation. But some companies fund their own research and development, and go right on innovating without any direct help from Washington.

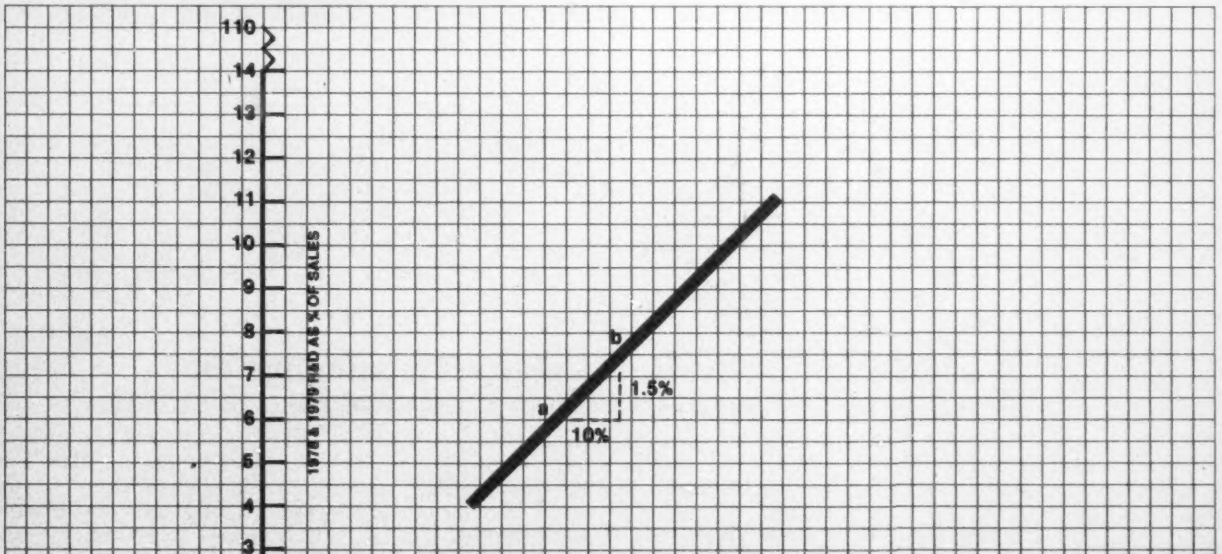
For example, Tandon Corp., a California manufacturer of computer disk drives, saw sales increase 247% to $23 million between 1979 and 1980 after the company spent nearly 12% of sales on research and development in the two previous years. As Tandon has found, there's a direct relationship between R&D investment and sales growth.

The chart at right lists those 52 companies from the 1981 INC. 200 that show an R&D allocation on their income statement. The three companies on the list that invested between 10% and 12% of sales in R&D showed an average sales growth of 119% in 1980. But companies that invested only 3% to 5% of 1979 sales in R&D showed average 1980 sales growth of "only" 53%.

So why does government need to get involved? Because, as Stanley Mason points out, there's a clear difference between developing Chinese tallow-tree seeds as an alternative fuel and developing an advanced disk drive for the computer market. Tandon can be pretty sure that its products will find a market, but who knows whether anybody will buy Mason's tallow-tree fuel? That's why it's in the nation's interest, Mason says, for the government to put some money aside for his project. ☐

This INC. survey was prepared by Harrison Moore, associate editor, and Carol Torres, editorial assistant.

HOW R&D SPENDING AFFECTS SALES



R&D expenditures have had a significant impact on the sales growth of the 52 smaller companies in the INC. sample. To relate past R&D spending to present sales, it is realistic to assume an average 18-month lag time between R&D investment and substantial market introduction. The graph reveals a significant correlation—a hike in R&D dollars by 1.5% of gross sales translates to a 10% sales gain 18 months later (a to b). The line represents the composite of all 52 companies. The slope of the line relates a 1.5% R&D increase in 1978 and 1979 to a 10% sales increase in 1980.

Company (State)	'80 R&D ($000)	% change* ('79-'80)	R&D as % sales	R&D as % profits	R&D $ per employee	'78 & '79 R&D as % sales	'79—'80 sales gain	'79—'80 profit change*	'80 profits as % sales
COMPUTERS, PERIPHERALS, SEMICONDUCTORS									
Prime Computer (MA)	$20,390	69.0%	7.6%	65.3%	$5,084	8.0%	75%	84%	11.7%
Dysan (CA)	10,862	185.7	17.3	135.9	6,034	8.7	86	166	12.7
Cray Research (MN)	8,821	47.7	14.5	80.9	11,591	13.9	42	39	17.9
Tandem Computers (CA)	8,786	88.8	8.1	82.2	6,335	8.5	95	117	9.8
Auto-trol Technology (CO)	6,123	50.8	12.1	161.7	9,420	12.8	51	10	7.5
Applicon (MA)	5,674	123.5	11.2	180.2	7,228	10.4	78	369	6.2
Gerber Scientific (CT)	5,318	62.9	7.1	90.8	4,432	7.3	65	51	7.9
Floating Point Systems (OR)	4,603	16.0	10.9	122.3	5,415	13.0	43	88	8.9
Evans & Sutherland (UT)	4,160	149.8	12.1	67.9	9,183	8.3	72	158	17.8
Monolithic Memories (CA)	4,001	90.2	5.1	41.6	1,673	9.4	111	NA[1]	12.4
Triad Systems (CA)	3,757	85.0	6.6	74.7	4,615	6.7	84	53	8.9
Ramtek (CA)	3,712	63.0	14.8	321.1	9,872	13.9	65	307	4.6
Verbatim (CA)	2,205	94.8	4.4	164.8	1,475	3.0	41	-43	2.7
Cullinane Database Systems (MA)	2,016	42.5	10.1	83.9	[illegible],506	9.8	44	34	12.0
Standard Microsystems (NY)	1,610	51.3	10.8	69.7	[illegible],649	8.8	31	-30	15.5
Printronix (CA)	1,300	54.2	3.5	41.4	1,529	3.5	80	71	8.5
Cado Systems (CA)	1,299	216.8	4.3	28.9	8,777	2.7	59	78	14.9
Hurco (IN)	1,257	24.2	4.4	491.0	3,492	5.6	67	-62	0.9
NBI (CO)	1,210	124.5	3.7	37.8	1,806	4.1[2]	149	94	9.7
Tandon (CA)	960	54.8	4.2	63.7	1,661	11.6	247	836	6.6
Intelligent Systems (GA)	843	30.1	5.8	173.1	4,557	8.3	53	-28	3.4
Silicon Systems (CA)	821	61.9	7.8	137.1	5,297	5.7	24	12	5.7
Wespercorp (CA)	722	47.3	7.5	94.4	4,719	5.9	22	-10	7.9
Computer Entry Systems (MD)	583	52.6	9.9	58.2	6,859	9.1	28	20	17.0
Vermont Research (VT)	458	49.2	2.8	16.4	2,054	5.4	58	85	17.4
Dicomed (MN)	317	-3.9	5.9	56.4	5,561	11.2	32	58	10.4
MEDICAL ELECTRONICS AND MEDICAL PRODUCTS									
United States Surgical (CT)	$3,020	31.9%	3.5%	37.9%	$2,195	3.5%	42%	55%	9.2%
Adac Laboratories (CA)	2,133	67.4	11.4	242.4	6,112	9.9[2]	45	-31	4.7
Haemonetics (MA)	1,100	74.0	5.7	64.8	2,529	3.8	34	50	8.8
Electro-Biology (NJ)	1,030	15.2	19.3	loss	7,103	10.9	485	NA[1]	loss
Kevex (CA)	977	51.0	5.7	47.2	3,687	6.1	36	31	12.2
Survival Technology (MD)	829	48.3	5.4	127.0	4,064	4.4	32	-62	4.2
Electromedics (CO)	500	2,172.7	16.6	217.4	6,250	1.7	59	NA[1]	7.6
Omnimedical (CA)	95	-37.9	0.7	8.4	171	3.5	113	726	8.7
Sci Med Life Systems (MN)	89	25.4	2.9	48.6	937	3.2[2]	38	216	6.0
ELECTRONICS									
Data Terminal Systems (MA)	$5,691	75.2%	5.3%	59.6%	$2,846	4.6%	55%	-32%	8.6%
Kratos (CA)	4,180	53.5	7.5	121.3	3,828	6.4	34	35	6.2
Data Card (MN)	1,712	5.7	2.6	24.4	1,048	3.6	38	71	10.6
National Micronetics (NY)	1,000	-8.7	5.0	loss	1,171	5.4	0.8	NA[1]	loss
Electrospace Systems (TX)	646	52.7	1.9	31.0	681	2.0[2]	58	28	6.2
Interface Mechanisms (WA)	639	46.2	6.3	74.0	2,219	6.4	51	-18	8.5
Autodynamics (NJ)	447	76.0	5.6	145.6	2,569	5.8	64	-19	3.9
HCC (CA)	230	52.3	1.4	15.9	708	1.8	95	67	8.9
HEI (MN)	172	33.3	2.7	27.7	856	3.3	45	48	9.8
TELECOMMUNICATIONS, COMPUTER NETWORKING SYSTEMS									
Rolm (CA)	$13,379	90.3%	6.7%	77.2%	$3,167	6.1%	66%	49%	8.6%
Tellabs (IL)	2,302	48.4	5.3	34.8	4,032	5.7	42	40	15.1
Network Systems (MN)	1,786	56.1	13.6	94.3	8,755	14.3	61	64	14.4
AM Cable TV Industries (PA)	33	NA[3]	0.6	7.8	100	NA[3]	53	118	8.0
POLLUTION CONTROL EQUIPMENT AND NUCLEAR FUEL HANDLING									
PaR Systems (MN)	$84	162.5%	0.4%	4.6%	$300	0.3%[2]	70%	100%	9.5%
Anderson 2000 (GA)	27	80.0	0.5	5.0	1,000	0.5[2]	97	130	9.0
SOFTWARE AND COMPUTER SERVICES									
Comshare (MI)	$4,942	48.0%	6.3%	118.7%	$3,855	6.6%	48%	-5%	5.3%
American Management Systems (VA)	4,412	9.9	7.1	192.7	4,270	7.3	22	25	3.7

Footnotes: *Increase unless otherwise noted. 1—Not applicable; figure cannot be calculated because of loss in 1979. 2—1979 R&D as a percent of 1979 sales. 3—Not applicable; no R&D in 1978-79.

Companies listed were selected at random from the 1981 INC. 100 and INC. Second 100 rankings of the fastest growing publicly held smaller companies in the United States (INC., May and June, 1981).

THE SECOND 100 ARE TOPS IN THE MARKET

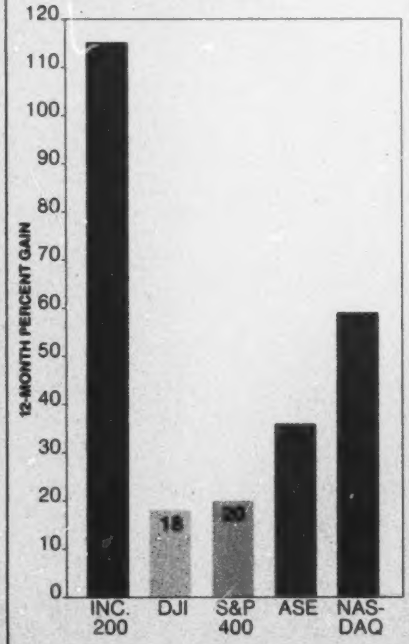
INC.'s Second 100 left other investments in the dust by returning 115% in the past year.

For the past three months, INC. has been analyzing the performance of "INC. 100" companies in the stock market. By any measure, their gains were exceptional, sometimes dramatic. This month INC. editors have pitted the INC. Second 100—the country's 101 to 200 fastest-growing publicly held corporations (see INC., June, page 37)—against four popular market averages for a recent 12-month period. The results, as the accompanying graph shows, were equally distinguished.

Indeed, considering that a person who owned $100 worth of each of these stocks would have more than doubled the $10,000 investment without having to bother with buy-sell decisions, and that 14 of the companies weren't even trading for the whole year, the increment is no less than sensational. And, on the face of it, surprising as well: Since the members of this group were runners-up in the sales-growth race, they might also have been expected to trail in the stock-market arena.

Instead, the Second 100 resoundingly

THE INC. SECOND 100 VS. POPULAR AVERAGES



THE 1981 INC. SECOND 100: TRACKING THE 12-MONTH STOCK PERFORMANCE

Rank	Company	Stock splits/dividends, status change	Bid/close 6/2/80	Bid/close 6/1/81	P/E ratio 6/2/80	P/E ratio 6/1/81	12-month value of $100 invested
101	**Worldwide Energy** (2)	4:3 split, 1/26/81	12 3/16	10 7/8	25	43	$ 89
102	**First Artists Productions**		3 1/8	4 7/8	10	9	156
103	**Control Laser**	3:2 split, 12/15/80	11.17	20	24	46	179
104	**Microdyne**	50% stk div, 12/22/80	15.17	33 3/4	17	38	223
105	**Autodynamics**	Common reclassified into A and B, 5/30/81; basis: one of each per share	4 5/8 (3)	21	10	27	454
106	**Cullinane Database Systems**	2:1 split, 11/10/80	16 1/2	68 3/4	22	54	417
107	**North American Watch**		11(3)	30(3)	NA	NA	273
108	**Heritage Communications**	50% stk div, 1/23/81	8.08	17	6	49	210
109	**Staff Builders**		15	11 5/8	22	18	78
110	**Oxoco**		8 1/2	15 7/8	NA	85	187
111	**Comshare**		13 1/2	14 1/4	11	17	106
112	**Mediscience**		3/4(3)	1/8	NA	NA	17
113	**Ramtek**		12 1/2	15 3/8	24	35	123
114	**Emons Industries**	3% stk div, 2/10/81	8 1/4	5 1/2	8	def	67
115	**General Devices**		4 5/8	5 1/2	26	24	118
116	**Anacomp**		12 1/2	23	14	22	184
117	**AM Cable TV Industries**(4)	3:2 split, 5/15/81	6.67	19 3/4	NA	37	296
118	**CPT**		18	61 3/4	14	29	343
119	**Federal Resources**(2)		6 5/8	4 7/8	21	45	74
120	**Evans & Sutherland Computer**		30	114	25	48	380
121	**Service Fracturing**(5)	50% stk div, 2/20/81	10	19 1/4	NA	19	193
122	**Analysts International**		4 1/4	7 1/2	9	16	176
123	**Gerber Scientific**(1)	100% stk div, 11/4/80	12 1/8	25 1/8	17	24	204
124	**Phoenix Materials**		3 1/2	3 3/4	NA	NA	107
125	**MGF Oil**	100% stk div, 1/19/81	9 1/4	13	35	24	141
126	**HCC Industries**		8 1/4(3)	10 7/8	NA	12	132
127	**Norstan**	10% stk div, 6/30/80; 50% stk div, 11/21/80	6.67	15 1/2	12	22	233
128	**Robinson-Nugent**		15 3/4	19	12	21	121
129	**Housing Systems**		3/8(3)	1/2	NA	NA	133
130	**HEI**(6)		9 1/4	8 3/4	NA	NA	95
131	**Computer Task Group**	10% stk div, 7/7/80	6.6	20 1/2	NA	16	311
132	**Bolar Pharmaceutical**	100% stk div, 11/10/80	9	16	18	29	178
133	**Power Conversion**		1 3/4(3)	4 1/4	NA	NA	243
134	**Thompson Medical**(1)		17 1/4	18 5/8	11	7	108
135	**Applicon**(7)		22	33 1/4	NA	37	151
136	**Tylan**(7)		18	21 1/4	NA	14	118
137	**Dranetz Engineering Laboratories**	50% stk div, 10/10/80	10.83	20	12	20	185
138	**Sandgate**(2)		5 3/4	7 5/8	8	6	133
139	**Kenai**(1)	3:2 split, 9/29/80	15.33	21 3/8	20	11	139
140	**SEI**(6)		17	27 3/4	NA	31	163
141	**Harken Oil & Gas**		10 3/8	13 1/8	def	def	127
142	**Key Energy Enterprises**	10% stk div, 6/16/80	5.11	6 1/2	NA	NA	127
143	**Sigmaform**		10	18 1/2	15	19	185
144	**Comserv**	50% stk div, 6/1/81	4.67	13 7/8	12	28	296
145	**AES Technology Systems**		3 1/4	3 7/8	def	NA	119
146	**American Management Systems**		21 1/8	17 5/8	17	16	83

Quotes adjusted for capital changes in period. All stocks traded O-T-C unless otherwise noted. NA Not applicable or not available (1) NYSE (2) American Stock Exchange (3) best available quote (4) initial public offering 10/80 (5) initial public offering 8/80 (6) initial public offering 3/81 (7) initial public offering 7/80 (8) initial public offering 12/80 (9) initial public offering 4/81 (10) initial public offering 2/81 shattered the 100% stock market profit level for the 12 months ending June 1, 1981. In so doing, it more than quintupled the Dow and the Standard & Poor's 400, more than tripled the Amex, and nearly doubled the hot industrials of NASDAQ. Further, it utterly squashed gold bugs (gold *fell* more than 10%), obscured money-market returns, and buried collectibles from postage stamps to California condos. This blowout should put to rest the still-prevalent assumption that common stocks haven't provided an adequate inflation hedge. It simply depends on which stocks are being referred to.

Statistically speaking, there were only a few high-end anomalies, chief among them Data Architects' 1,900% surge from 75c to $14.25. All in all, the individual performances were solidly middle-of-the-road. Even the price/earnings ratios, which of course rose on balance (to an average multiple of 26), did not reach the extremes seen in earlier INC. market studies.

1981 INC. SECOND 100: RELATIVE MARKET PERFORMANCE

	6/2/80	6/1/81	% Gain
INC.	100	215	115
Dow Jones Industrials	847.35	997.96	18
Standard & Poor's 400	124.53	149.31	20
American Exchange Index	272.51	370.44	36
NASDAQ Industrials	177.04	281.57	59

Nonetheless, the fact that these slower-growing companies (their five-year revenue change was +364% on average, compared to the first 100's +1,188%) outpaced their faster brethren in a comparable market period by a sizzling 39 percentage points (see INC., May, page 161), bears reflection. Why did slower growth, both in sales and in earnings, inspire more investor confidence?

Among the reasons is that the second rank comprises companies with longer histories than the first 100. As INC.'s "Second 100" report concluded, the companies tended to be older. Their growth rates may be winding down (24 of the Second 100 are graduates of an earlier First 100), but their proven stability in earnings and profitability makes them less volatile and hence less chancy in the market. Only 12 of the present gathering showed stock market losses, and only a handful reported deficits in the latest available statements.

But they're no top-heavy IBMs, either. The Second 100 is a seasoned bunch whose growth stands every chance of spurting anew and shows little sign of shrinking suddenly to insignificance or being overwhelmed by stock dilution.

An investment in one of these companies stands less of a risk of diminishing precipitously. That, plus a still-more-than-adequate earnings growth rate—the Second 100 sported a collective 48% increase in profits from 1979 to 1980—would seem primarily to be what spurred this maturing group to new INC. heights. □

Rank	Company	Stock splits/dividends, status change	Bid/close		P/E ratio		12-month value of $100 invested
			6/2/80	6/1/81	6/2/80	6/1/81	
147	**Discovery Oil**		2⅝	2¾	def	def	105
148	**Lear Petroleum**(1)		16⅞	26¾	15	26	159
149	**Impell**	50% stk div, 3/13/81	16.33	59½	13	28	364
150	**Transducer Systems**	5:4 split, 12/15/80	3.80	9½	NA	NA	250
151	**United States Surgical**	2:1 split, 12/8/80	15⅝	35½	22	37	227
152	**TIE/Communications**(2)	50% stk div, 6/16/80; 3:2 split, 11/10/80	4.67	33⅜	13	47	715
153	**Chessco Industries**		3½(3)	5¾	NA	NA	164
154	**Duralith**(6)		15½	17¾	NA	17	115
155	**Standard Microsystems**		8⅞	10¾	18	21	121
156	**Siltec**		18	20½	16	19	114
157	**CACI**		13	19¼	8	14	148
158	**National Micronetics**		5¼	18½	21	def	352
159	**Dataram**		9½	9⅝	7	11	101
160	**Air Wisconsin**	3:2 split, 5/1/81	6.67	17½	10	15	263
161	**Dicomed**	3:2 split, 5/15/81	5.67	16½	13	40	292
162	**Zentec**(8)		16	27	NA	40	169
163	**Vermont Research**		16¾	23¾	14	14	142
164	**Brookwood Health Services**		16¼	51¼	10	78	315
165	**Beard Oil**		16½	23	20	22	139
166	**Data Architects**		¾	14¼	NA	NA	1,900
167	**Communications Corp. of America**	50% stk div, 5/18/81	2.08	9½	NA	29	457
168	**E.I.L. Instruments**(9)		12	9	NA	13	75
169	**Materials Research**(2)	4:3 split, 3/13/81	18.28	26	16	21	142
170	**American Agronomics**(1)	100% stk div, 8/15/80	4⅞	17	12	25	349
171	**PaR Systems**		12¼	33½	8	25	273
172	**Salem National**		5	2	def	def	40
173	**Nicolet Instrument**		15½	22½	16	22	145
174	**Penril**(2)		9½	15⅞	8	12	167
175	**Omnimedical**	3:2 split, 12/31/80	2½	22	42	29	880
176	**National Education**(1)	10% stk div, 4/2/81	10	17⅝	6	9	176
177	**Pengo Industries**(1)		14⅛	26	33	25	184
178	**Verna**(2) (10)		15	17½	NA	14	117
179	**Maxon Industries**		6	3½	27	def	58
180	**NSA**		.10(3)	.30(3)	NA	NA	300
181	**Cascade Steel Rolling Mills**		7½	14½	3	12	193
182	**Analogic**	100% stk div, 9/26/80	10¾	35¼	14	36	328
183	**Systematics General**		4½	7¼	def	56	161
184	**Applied Materials**	3:2 split, 2/5/81	13.67	32¼	11	20	236
185	**Data Card**	50% stk div, 8/20/80	14¾	14⅞	12	13	101
186	**Barry Industries**		3	12⅜	50	14	413
187	**Verbatim**		15¾	26½	18	def	168
188	**Cherry Electrical Products**		11¾	16¾	7	13	143
189	**Sensormatic Electronics**	100% stk div, 9/26/80	15 1/16	42¾	17	34	284
190	**Raycomm Industries**		1¾	4	def	def	229
191	**Argonaut Energy**		6½	6⅜	32	81	98
192	**Monolithic Memories**(5)		21	22¾	NA	12	108
193	**Prairie Producing**(9)		15	11¾	NA	20	78
194	**May Petroleum**	3:2 split, 10/21/80	17½	32¼	27	35	184
195	**Computer Entry Systems**(9)		7	7¼	NA	20	104
196	**Haemonetics**		18¼	27½	21	27	151
197	**K-tron International**(8)		16	19	NA	33	119
198	**Survival Technology**		7	9¾	12	NA	139
199	**Electrospace Systems**	20% stk div, 9/25/80	8.33	25½	12	24	306
200	**Kevex**	100% stk div, 11/20/80	12⅜	27¼	21	42	220

Quotes adjusted for capital changes in period. All stocks traded O-T-C unless otherwise noted. NA Not applicable or not available (1) NYSE (2) American Stock Exchange (3) best available quote (4) initial public offering 10/80 (5) initial public offering 8/80 (6) initial public offering 3/81 (7) initial public offering 7/80 (8) initial public offering 12/80 (9) initial public offering 4/81 (10) initial public offering 2/81

THE MAGAZINE FOR
GROWING COMPANIES

SEPTEMBER 1981
$2.00

Inc.

INC. Special Report

VENTURE CAPITAL'S BILLION DOLLAR SEASON

KEEPING IT ALL IN THE FAMILY

Six generations build a business from the ground up.

GREGORY
CKORY SMOKED

0004 NLL 4520W090 344D MAR82
JOSEPH MC NALLY
SUITE 800 09
4520 E WEST HWY
WASHINGTON DC 20014

BEST AVAILABLE COPY

SEPTEMBER 1981

CONTENTS

VOL.3,NO.9

DEPARTMENTS

From the editor 7

Letters 10

Speaking out 13
Why don't your kids want to go into business for themselves?

Economic issues 18
American business can win the productivity race only if it slims down.

People & innovations 20

News & trends 22
Small business pulling more weight down home; Even if prime drops, small firms will suffer.

National affairs 35
Why does the government compete with you?

Washington update 37

INC. Interview 41
Researcher David Birch says things aren't as bad as they seem.

Time out 143
Charlie Coulter bicycles to and from work, and just for fun, too.

Mind & body 146
Success can hurt when work becomes the only thing you live for.

Investing in growth companies 148
Introducing the INC. Index of growing companies' market performance.

New issues 153
Our new IPO Monitor keeps track of new issues in the aftermarket.

Street talk 155
Smart money is causing a market shakeout.

Financing 160
Use your real estate to raise cash.

Marketing 165
A genius for free publicity got his product established without spending a nickel for advertising.

The law 169
The Freedom of Information Act gives you access to information that can help your business.

Taxes 172
Pension plans make more sense than profit sharing for most small company owners.

Managing people 174
Playing favorites can lead to personal and professional crisis.

Books 176

Ideas you can use 178

The buck stops here 188

Cover photo
Dennis Brack

The man who never wanted to be president
Charles Muench has a formula for fast growth: Let other people run the company. **48**

The billion dollar gamble
That's how much venture capitalists invested in new and growing companies last year. This year they're spending even more. **57**

I'm no copycat
So says Belvin Friedson, who insists there's more than one way to be innovative. **71**

You can't run a company by the numbers alone
When Ken Carpenter looked at the finances of Curtis-Toledo, he saw a few simple problems. He found the reality was more complicated. **74**

"Overseas customers prefer small companies"
Last year, Maureen Reagan and Sell Overseas America helped 740 companies stake out a share of the world marketplace. **82**

Negotiating budgets: The games people play
The higher the stakes, the more outrageous the tactics. **89**

Thirteen ways to get a company in trouble
Management consultants Goldstick and Schreiber specialize in rescuing companies. **97**

Keeping it all in the family

Just a poor, dumb dirt farmer
Colonel Gregory is the fifth generation to farm the rich dirt of Virginia. Truth be told, he's a lot smarter than he makes out to be. **103**

How to keep a small computer healthy
Your sturdy little computer is vulnerable to mysterious ailments. In most cases, the cure is easy. **111**

Hanging tough with Reagan on taxes
Small business deal makers had to choose between political loyalty to the Administration and attractive offers from Democrats. They made a split decision. **117**

The new owners speak German
The next time someone offers to buy your company, there's a one-in-five chance that he'll be from another country. **120**

COPYRIGHT © 1981 BY INC. PUBLISHING COMPANY All rights reserved. INC. is published monthly by Inc. Publishing Company. ISSN: 0162-8968. Editorial and executive offices at 38 Commercial Wharf, Boston, MA 02110. Telephone (617) 227-4700. Bernard A. Goldhirsh, President; John W. Carlson, Vice-President; Norman Raben, Vice-President; William C. Taylor, Vice-President. ☐ **SUBSCRIPTION:** One-year subscription rate for U.S. and possessions, $18.00; Canada, $30.00. All other countries, one-year subscription rate $45.00, cash orders only, payable in U.S. currency. Forms 3579 and all subscription correspondence should be addressed to INC. Magazine, P.O. Box 2538, Boulder, CO 80322, (800) 525-0643. Please allow at least six weeks for change of address. Include your old address as well as new, and enclose if possible an address label from a recent issue. ☐ Controlled circulation postage paid at Boston, Mass., and at additional mailing offices. Material in this publication may not be stored or reproduced in any form without permission. Requests for permission should be directed to Rights and Permissions Editor, INC., 38 Commercial Wharf, Boston, MA 02110.

BEST AVAILABLE COPY

VENTURE CAPITAL

THE BILLION DOLLAR GAMBLE

That's how much money venture capitalists invested in new and growing companies last year. This year they're spending even more. Will the boom last forever?

By Christopher A. Leach

By now anyone with more than a passing knowledge of business and finance knows that venture capital is "hot." Venture capitalists raised more than $900 million in fresh capital during 1980 alone and invested more than $1 billion in new or growing companies during the same year. No one connected with the venture capital community expects the pace to slacken during 1981 or in the immediate future.

Does this mean that the heralded "decade of the entrepreneur" is indeed upon us? Are the possibilities for seed money and growth financing of small business unlimited? And if not, what limits do exist? To find out, INC. spent several weeks talking with leaders of the venture capital community across the country.

Venture capital is a highly personal business, where profits are made as much from correct gut feelings about a company's prospects for success as from painstaking analysis of financial ratios. So while it's fair to say that there is such an entity as an organized venture capital "community," at least among the 50 or so largest, most active firms (see table, page 66), the group does not speak with one voice. But a clear consensus does emerge on some points:

☐ A lack of experienced venture capital fund managers who can identify promising investments will be the most important constraint on the growth of the business in the years just ahead. Despite the increased flow of funds into venture capital, there may be no significant increase over the 4,000 deals funded per year that is the current average. So, despite its present affluence, organized venture capital will have little impact on the expansion capital needs of the vast majority of small businesses (see box, page 60).

☐ The increased flow of money into the venture business, however, will continue unabated for several years, barring a major catastrophe in the overall economy. Institutional investors, particularly pension funds freed from past legal shackles, are impressed with venture capital's track record as a hedge against inflation during the past decade and believe the rewards of participation will continue to outweigh the risks. Foreign investors, too, are increasingly interested in entering the U.S. venture market by investing through established firms.

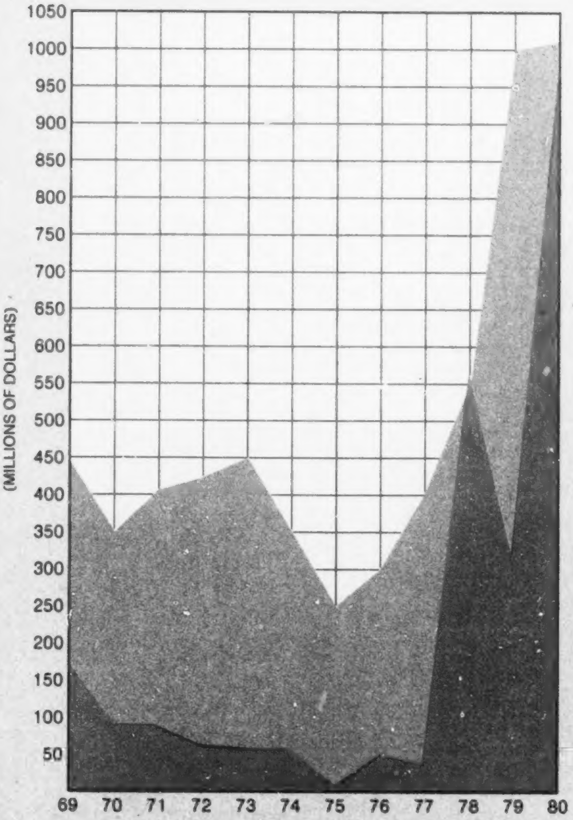
Steve Schmitt

Cronin: To acquire good judgment, you have to make mistakes.

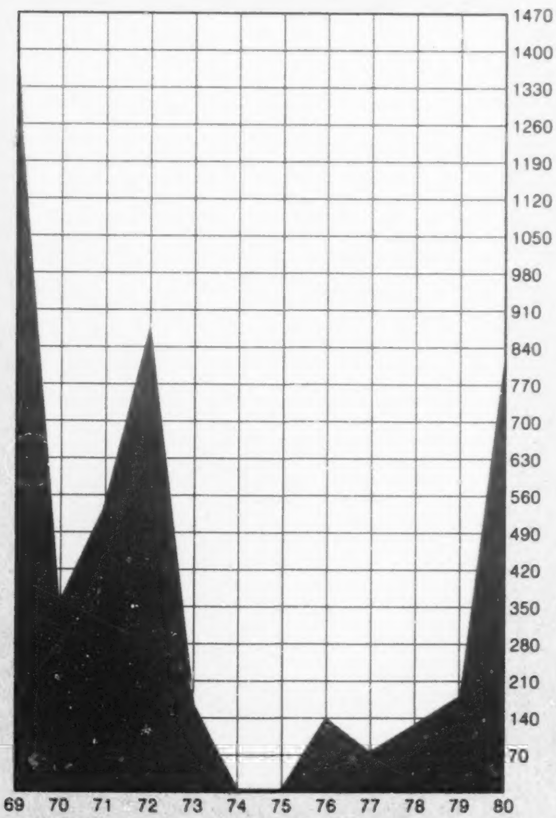
☐ Stable, long-term public policy commitments to venture capital, particularly support of federally licensed Small Business Investment Companies, are a must. After a decade of smooth growth and increasing success, the SBIC program is currently in a holding pattern while the Reagan Administration and the new administrator of the Small Business Administration, Michael Cardenas, review their options.

☐ Further capital gains tax relief, including the possibility of establishing different rates of tax on sales of "new" investments, remains a critical element in the continued strength of venture capital.

☐ The booming market for new public stock offerings, both fueling and fueled by venture capital, has enticed an unprecedented number of would-be entrepreneurs to strike out on their own. Many are experienced managers from big technology-based companies. As a result, there are more good ideas to choose from today than at any previous time in the history of the business. But experienced venture capitalists worry that too many deals are being made too quickly, and at too high a price to the investor. The result, some feel, will be a bursting of the bubble, leading to



Investments in, commitments by venture capital, *1969-80. Cashing in on past success kept venture investments (gold) flowing even when new money commitments (blue) were slim.*



New public stock offerings *of companies with a net worth of $5 million or less, 1969-80. The market encourages entrepreneurs but also competes with venture capital.*

BEST AVAILABLE COPY

Penelope Breese/Gamma Liaison

Stults: The "evergreen money tree" suddenly turned brown.

another contraction similar to that which the industry suffered in the mid-'70s. In their minds, venture capital will remain a cyclical business, and many of the "foolproof" investments of today will suffer through some lean years before the real winners are sorted out by the market.

While all five of these factors will probably affect the future of venture capital, who's available to call the capital investment shots is the critical issue. Venture capital is the ultimate management-intensive business, requiring hundreds of hours of study before making a deal, and an even greater commitment of managerial time after it's made. Walter Stults, president of the National Association of Small Business Investment Companies, estimates that there are no more than 3,000 people managing organized venture capital today. Craig Burr, a 10-year veteran of the business and a partner in the Boston–San Francisco firm of Burr, Egan, Deleage & Co., puts the number far lower. "I'd say there are about 25 mainstream firms, and maybe 150 people with outstanding track records in the business right now," he maintains. What this means is that there are only so many people with only so much time to evaluate prospective investments and sit on the boards of companies in the venture fund's portfolio once the deals are made—not good news for needy small companies.

Ed Malitsky

Burr: Decide in three weeks, or lose by default.

Nor is hiring freshly minted M.B.A.'s the immediate solution. Says Burr, "How can I tell the president of a highly successful, fast-growing company that I'm turning my seat on his board over to somebody one year out of Harvard? Is that supposed to be an example of the kind of wisdom and

EXPANSION CAPITAL: THE CRITICAL ISSUE

More than one small businessman has put down his morning paper after reading about the latest surge of money into venture capital and said to himself, "If that's all true, why can't I raise the money I need to expand my business?" In part it's because only a tiny fraction of the half-million businesses started in the United States each year promise the kind of returns on invested money venture capitalists need. More important, it's because venture capital, in its current form, is not meant to finance the kinds of needs most small businesses have as they struggle to grow. "We're in the business of financing losses, not plant and equipment," explains Morton Collins, who is president of the National Venture Capital Association.

Yet all venture capitalists agree that a lack of true "seed money" is a critical problem in our economy. Many point to the high-flying market in new stock issues as an example of the problem. "A lot of little companies with half-baked ideas are taking money from unwary investors," says Bill Chandler, a San Francisco venture capitalist. "Inevitably that means there will be a minicrash and a lot of people will get burned. If we had a proper seed-capital system, the bad apples would get sorted out long before they got into the public market, and we'd have more good small companies and more jobs."

Chandler believes one solution to the problem lies in forming Small Business Investment Companies with relatively small investments from groups of individual limited partners. In that way, Chandler thinks, more than the currently active 4% of the country's estimated 500,000 millionaires might come out of the closet and take part in helping to finance small companies. "The institutional investor support of venture capital is fine," he says, "but to prevent wild fluctuations in venture capital we need to underpin the institutionally supported community with a network of wealthy personal investors." Chandler has just completed forming one such SBIC and hopes to begin making investments soon.

Another alternative lies in publicly owned SBICs, a concept that flourished in the '60s but faded away during the "crash" of the '70s and is only just coming back into favor. Giving ordinary investors a way to participate in venture capital seems to be a good idea, but skeptics wonder if the public SBICs won't go the way of Real Estate Investment Trusts, another great concept ruined in part by relentless pressure to perform early and often in the traditional bottom-line fashion of publicly owned companies. "Venture capital takes good instincts and most of all patience," says one veteran observer. "I wonder if the stockholders in public SBICs can or will wait as long as they'll probably have to for a real return on their investment."

Andree Abecassis

Chandler: Getting millionaires out of the closet.

These developments aside, even if all of venture capital's current resources were focused on more traditional small businesses, it would still be just a drop in the bucket. "We need so much more money funneled into taking advantage of our own innovations that it's frightening," says Chandler. "We're still running on about one and a half cylinders, while countries like Japan are targeting their dollars on developing products made with technologies we developed."

Until more Americans have real incentives to stop investing all of their liquid assets in inflation hedges like real estate, the innovation and expansion capital gap will continue to be *the* critical problem for small business. It's a problem born not just of high interest rates, but also from the shift of bank credit from the United States to foreign countries, multinational corporations, and to the current merger mania. The supply of expansion capital for small business has never been adequate in recent years, and is less so today. But venture capital cannot solve the entire problem.

BEST AVAILABLE COPY

Harry O. Wilks

Collins: "When it's easy to raise money, it's the wrong time to invest."

insight venture capitalists can provide?" Good judgment, as any veteran in the business will tell you, is the key to success in the business. "And the only way you acquire good judgment," says Dan Cronin, general partner of Ampersand Associates, a Boston venture capital firm, "is to exercise bad judgment and get burned a few times."

One of the reasons for venture capital's current heady successes is the good judgment men like Burr and Cronin learned while slugging their way through the near-dormant mid-'70s. The period between 1972 and 1978 may someday be remembered as venture capital's years in the desert. After a heady adolescence in the late '60s, the business almost disappeared from public view after the bull market of 1968-69 went into eclipse, taking with it the new-issues market that had buoyed the venture business.

Of course, venture capital didn't disappear. Many of the venture high-fliers of the late '60s were busy "working out" their deals. Morton Collins, current president of the National Venture Capital Association and general partner of DSV Associates, a venture firm in Princeton, N.J., recalls the era. "I formed my partnership in 1968," he says, "raised several millions, and went shopping for deals. At the time, a more experienced gentleman in the business said to me, 'Now's not the time to invest. Deals are too expensive. Wait till it cools.' But I went ahead and plowed money into good-looking propositions. Things soured in 1970, and I spent the next five years working them out. By 1975 I had gotten back to zero."

Collins and his peers have no difficulty identifying the primary reason for venture capital's slump. It was the increase in the capital gains tax from 25% to 49% in 1969. Since at that time almost all venture financing came from wealthy individuals, who had little desire to pay twice as high a tax on their gains, many of the venture money sources simply dried up. The 1973-74 stock market slump and subsequent recession merely added to the bad news.

More than mere coincidence ties venture capital's comeback to the decrease in capital gains taxes from 49% back to 28% in 1978. (Not to mention the distinct possibility of a further reduction to 20% in the near future.) The ability of public policy to direct capital to a specific sector has seldom been more clear. Future policy toward Small Business Investment Companies is just as important an issue today.

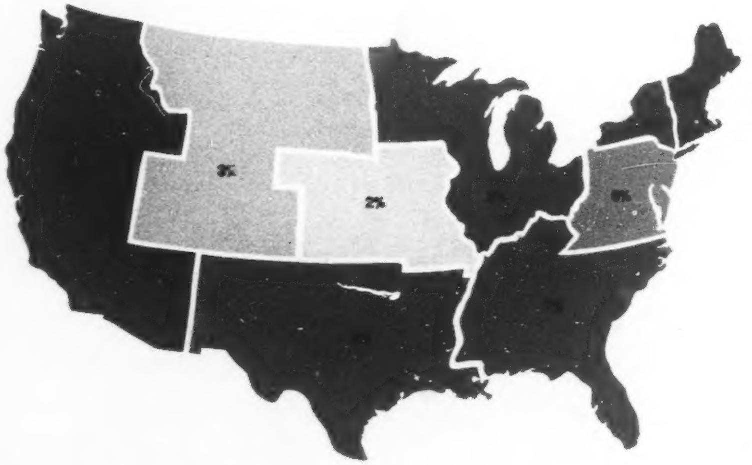
Richard Marin

Golder: A fond look back at the bad old days.

SBICs were created by act of Congress in 1958. They were meant to fill at least part of an "equity gap" for small businesses identified by a Federal Reserve report presented the same year. After more than two decades of experience, it's safe to say that, in part, they have fulfilled their mission. "We're the ultimate supply-side industry," says NASBIC president Stults. "Show me another government program that has done so much for business at so little cost to the taxpayers." On the evidence, one has to agree. During 1980 approximately 350 SBICs invested $295.2 million in more than 2,000 small companies at a net cost of approximately $2.5 million to the government. The latter figure includes about $1.5 million in defaulted loans, a figure consistent since the beginning of the program. Of more than $3 billion invested in more than 40,000 small companies since the program began, a mere 1%—barely $30 million—has been lost by the federal government. And there are secondary benefits as well. A 1980 Arthur D. Little study of SBIC investment recipients showed that a permanent new job was created by every $6,000 invested.

SBICs are licensed by the federal government and allowed to borrow money at favorable government rates through the Small Business Administration. Once an SBIC has $500,000 of private capital committed, it can leverage that amount by borrowing up to four times the private commitment. Thus, with its government loan backing, an SBIC can afford to invest in many companies that traditional venture capitalists, who need to show an eventual return of 30% to 40%, dollar for dollar, on their investment, cannot or will not touch.

All is not happy on the SBIC front today, however. From the mid-1970s until this year the availability of leverage capital was never a problem. Now it is—at least poten-



Where the deals are. *As this map shows, most venture capital has stayed relatively close to its historic homes—California, New York, and New England. Texas is making inroads, as is Minnesota.*

tially. "It was an evergreen money tree," says Stults. "Any well-managed SBIC could count on loan approval within a month to six weeks." That sort of stability was critical to SBIC managers, who could commit all of their private capital to investments knowing that they could borrow an equal amount from the SBA to make further investments.

Stability suffered a setback this spring, however. The Reagan Administration proposed cutting back the SBA's loan pool to $145 million per year, a far cry from the last Carter budget's allotment of $190 million for the same period. SBICs with deals ready to go suddenly found their primary source of funds uncertain. Michael Cardenas, the new head of the SBA, imposed a freeze on all licensing approvals while he studied the program along with all other SBA operations. The freeze sent a shock through the SBIC community. While the freeze had been lifted by mid-summer, and it appeared that the SBA loan program would have about $160 million to disburse both this year and next, the program suddenly was less certain of its own future. "We feel we can live with a one-year squeeze," says Stults. "Many of the older SBICs have been through an investment cycle, have cashed in, and are liquid. But if our leverage didn't increase for a long time, or if the opportunity to cash in disappeared because the new-issues market soured, there might be trouble."

Stults and others in the SBIC community hope that, in time, the Reagan Administration can be made to see the great benefits they believe SBICs bestow on business, employment, and the economy in general, and that the Administration will sharply increase the level of funding. Or, if Reaganomics proves disastrous, and a new recession occurs, perhaps Congress will go back to its old spending ways and water the money tree again. For now, though, there's a disquieting pause in the middle of an otherwise healthy trend.

Or is it healthy? Far from crowing about the flood of money into venture capital today, many old hands are unabashedly nervous about the phenomenon. They look back on the lean years of 1974-75 as the time when *really* good deals were made by sharp investors. Says Stan Golder, for years the head of venture capital for First Chicago Corp. and now general partner of his own firm, Golder, Thoma & Co., "We made a lot of good deals in '74 and '75, because the entry prices were quite low. Most of those companies have turned out to be big winners, for us and for the entrepreneurs who had the courage to start them." How profitable the deals will be that Golder and his fellow venture capitalists are making today won't be known for some time of course. But almost everyone concedes that the current surge has put added pressure on the deal makers. "The competition isn't necessarily among ourselves," says Craig Burr, "but against the public market. The deals we did five years ago can now go public at a much higher price. Five years ago my partner Bill Egan took four months to make up his mind about Federal Express. Now we have to analyze a proposal and reach a decision in three to four weeks. Otherwise we lose it by default."

Dan Cronin backs up part of Burr's claim. "I've seen companies we rejected because we didn't think they were good enough turn around and go public at high prices within a matter of months," he says. Morton Collins doesn't even want to get involved in the race. "If someone tells me that the only way to do a deal is to do it in three weeks," he says, "then I just won't do anything." Collins hasn't made an investment in more than a year, in part because he's been busy raising more money but also because he believes that "it's almost axiomatic that when it's easy to raise money it's the wrong time to invest it. My investors have enough faith in me to sit and wait. If I didn't put a dime into anything for three years, they wouldn't say boo."

Predicting the future of venture capital, even in the short term, is almost as risky as playing the investing game itself. But it seems fair to say that the performance of any firm, much less a particular investment, must be measured over periods of years, not months. There may be, for example, one time omen for those who like to find historic precedents. The last boom period for raising money, in 1968 and 1969, preceded the seven-year slump by just 24 months. Is another shakeout in the works? No one can say for sure, but in venture capital, as in business in general, the race does not always go to the swift. Slumps are made to be ridden out and used; that takes courage, skill, patience, and financial staying power. There's more of all of them in the venture capital community than ever before. ☐

Christopher A. Leach is a senior editor at INC.

A BRIEF HISTORY

Venture capital is as old as capitalism itself. But organized venture capital in the United States has a relatively brief history. After World War II, several wealthy families, including John Hay Whitney's and the Rockefeller brothers, decided to set up partnerships to finance new companies in electronics, communications, and other fields. Their timing was perfect. The combination of rapid technological advances in many fields during the war and pent-up consumer demand for new products created a booming economy in the '50s, largely fueled by the new technologies they backed.

Following the Whitney and Rockefeller leads, other wealthy families and individuals in New York, Boston, Chicago, and San Francisco also established venture partnerships during the '50s. In 1958, their efforts were given a substantial boost when Congress passed the Small Business Investment Act. This authorized the Small Business Administration to license and lend money at preferred rates to Small Business Investment Companies.

Within six years more than 700 licenses had been granted and half a billion dollars in private capital committed to SBICs. Many of venture capital's first generation of professional investment managers learned the ropes while working in these early SBICs.

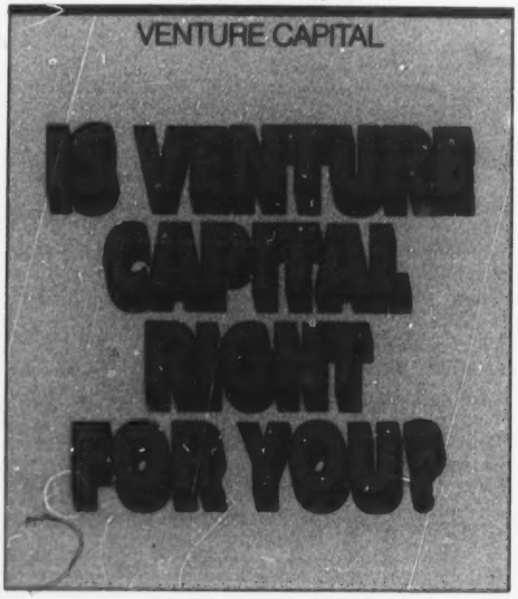
Venture capital's first boom era peaked in 1969. During the succeeding eight years, new investment activity slowed and the professional community consolidated. During the same period, large institutional investors, particularly pension funds, became the dominant force in the stock and bond markets. By the late '70s, when lower capital-gains tax rates and a new wave of technologies combined to provide a fertile climate for renewed venture capital vigor, the financial institutions (pension funds, banks, and insurance companies) had begun to invest in venture partnerships as well. Major corporations also began to test the venture capital water, both by investing in established firms and by setting up their own venture capital subsidiaries.

Today there are approximately 660 venture capital pools: 250 private firms, 350 SBICs, and 60 corporate investors. Since most parent groups manage more than one venture capital pool, the number of investing entities is smaller. Organized venture capital is still concentrated in the cities and regions where it grew, although some branching out has begun.

In 35 years since its birth, venture capital has expanded from an informal art practiced by a tiny number of individuals into a formally managed business with carefully defined and controlled risks. It has also become a more active business. Most venture capitalists provide management advice and technical help as well as money to the companies in which they invest. It is still a very small community but, as the success of many of the high-technology companies and other small businesses it has spawned suggests, it is a vitally important part of the U.S. capital structure.

BEST AVAILABLE COPY

INC. Special Report:


VENTURE CAPITAL
IS VENTURE CAPITAL RIGHT FOR YOU?

Venture capital is by definition a risky business, but venture investors minimize their risks by imposing a number of requirements on the companies they finance. If your business meets all or most of the following criteria, you could be a likely candidate for venture capital.

SIZE: Can your business expect to grow to $15 million or more in annual revenues? Can you project a realistic net profit of $1 million or more within five years on that revenue base? Because venture capital investments require time as well as money on the investor's part, very few venture capitalists will put money into a deal that cannot grow to a certain size.

PRODUCT: Are you in or directly connected to a fast-growing industry? Is there a proprietary market for your product or service, one with minimal competition? Venture investors tend to stick to industries they're familiar with from past experience or that promise extraordinary growth. Try to find venture capitalists who know your industry from successful past investments. Avoid those whose present investments might conflict with your business.

MANAGEMENT: Do you have a real management team in place, a group that is strong in marketing, finance, administration, and everything else that is critical to delivering your product? Venture investors do not like lone wolves, no matter how brilliant, although occasionally an idea is so strong that the venture capitalist will help you assemble a proper team.

PLANNING: Do you have a current five-year plan, including projections of cash flow and net income with clear assumptions based on reality rather than wishful thinking? A sound financial plan is absolutely essential. It shows that you've thought through the future of your company.

GOALS: Do you want to manage a publicly owned company? Or are you willing to merge or sell out to a bigger company if you succeed? The venture capitalist must be able to get his money out of your business in hard dollars or marketable securities, usually within a period of five to seven years. Are you willing to bring outsiders into your business, even if it means taking a new tack toward the way you run your company? You're entering into a partnership with your investor. If you and your backer don't want to travel the same road at the same pace, it just won't work.

THE 50 MOST ACTIVE VENTURE CAPITALISTS

Firm (location)	Time from first contact to funds commitment (wks)		
	Min.	**Max.**	**Avg.**
Adler & Co. (New York)	0.1	24	NA
Allstate Insurance (Northbrook, IL)	4	16	8
American Research & Development (Boston)	3	52	6
Bank America Capital (San Francisco)	8	24	16
Bessemer Securities (New York)	4	24	NA
Brentwood Associates (Los Angeles)	1	12	6
Burr, Egan, Deleage (Boston)	1.4	24	12
Business Development Services (Fairfield, CT)	0.1	NA	4
Capital Southwest (Dallas)	4	12	8
Charles River Partnership (Boston)	0.1	NA	8
Citicorp Venture Capital (New York)	3	24	16
Continental Illinois Venture (Chicago)	4	16	8
DSV Associates (Princeton, NJ)	12	52	20
First Capital Corp. of Boston (Boston)	4	16	10
First Capital Corp. of Chicago (Chicago)	8	12	8
First Dallas Capital (Dallas)	3	12	8
Golder, Thoma & Co. (Chicago)	8	32	16
Greylock Management (Boston)	2	104	NA
Hambrecht & Quist (San Francisco)	4	16	8
Harrison Capital (White Plains, NY)	2	40	NA
Heizer (Chicago)	—	—	8
Hixon Venture (San Francisco)	2	24	8
InnoVen Capital (Saddle Brook, NJ)	12	104	NA
Interwest Partners (San Francisco)	4	24	12
Kleiner, Perkins, Caufield & Byers (San Francisco)	0.4	4	4
Lubrizol Enterprises (Wickliffe, OH)	20	104	NA
Carl Marks & Co. (New York)	6	36	12
Massachusetts Capital (Boston)	2	NA	8
Mayfield Fund (Menlo Park, CA)	2	8	8
Narragansett Capital (Providence)	7	36	12
Northwest Growth Fund (Minneapolis)	8	32	12
Oak Investment Partners (Westport, CT)	4	52	16
Palmer Organization (Boston)	4	12	6
Pathfinder Venture Capital Fund (Minneapolis)	NA	NA	NA
Alan Patricof Associates (New York)	4	16	12
Pioneer Group (New York)	0.6	52	24
Republic Venture Group (Dallas)	4	24	12
Research & Science Investors (New York)	3	24	12
Schooner Capital (Boston)	NA	NA	NA
Sprout Capital Groups (New York)	4	24	6
Sutter Hill Ventures (Palo Alto, CA)	4	16	6.4
T. A. Associates (Boston)	0.1	NA	8
Technology Venture Investors (Menlo Park, CA)	1	8	4
Texas Capital (Houston)	6	16	10
Venrock Associates (New York)	4	8	8
Wells Fargo Investment (San Francisco)	4	NA	8
Welsh, Carson, Anderson & Stowe (New York)	4	16	8
West Coast Venture Capital (Cupertino, CA)	1	24	12
WestVen (San Francisco)	1	12	6.4
J. H. Whitney & Co. (New York)	0.4	12	6

1—occasionally; 2—convertible stock (rare); 3—convertible stock; 4—preferred stock

BEST AVAILABLE COPY

Size of initial investment ($ mil.)			Preferred instruments				
Min.	Max.	Avg.	Debt	Equity	Warr.	Conv. Deb.	Comments
$ .01	$ 3	$ NA	–	△	–	–	Prefers early stages.
1	5	2	△	△[1]	△	△	Likes direct approach by CEO; prefers second stages, leveraged buyouts.
0.4	1	0.7	------- Combination -------				Likes direct approach or referral; seeks 25% ROI for 5 years.
0.5	3	1.5	△	△	△	△	
0.5	6	1	△[1]	△	–	–	Prefers referral; accepts under 50% ownership.
0.5	2	1	–	–	–	△	Seeks 30-50% ROI for 5-10 years.
0.25	2	0.75	–	△	△	△	Seeks ROI of 5x in 5-7 years for early stage, 30%/yr. for mature; prefers computers, medical instruments
0.25	0.2	NA	△	△	△	△	Accepts under 50% ownership; seeks 40% ROI for 3-5 years.
0.25	1	0.5	△	–	–	△	Prefers second stages, leveraged buyouts; likes mfg, oil/gas.
0.3	0.8	0.5	–	△	–	△	Likes referral; accepts 1-30% ownership; wants 40-50% ROI with no time frame.
0.5	5	0.8	△	△	△	△	Prefers referrals; funds second and third stages; seeks 30% ROI for 5-10 years.
0.2	1	NA	–	△	–	△	Does not fund real estate.
0.1	1	0.3	–	△	–	–	Funds start-ups and second stages; seeks ROI in excess of 50%.
0.1	1	0.3	△	–	–	–	Likes direct approach; funds early stages; wants up to 50% ownership; seeks 25-35% ROI for 5-10 years.
0.1	None	NA	△	–	–	–	Prefers referral.
0.25	1	6	△	△[2]	–	△	Prefers later stages, leveraged buyouts.
0.25	6	2	△	△	△	△	Prefers later stages; does not fund real estate.
0.25	1.2	0.6	–	△	△	△	Likes innovation.
1	7	1	–	△	△[1]	△[1]	Likes direct approach by management, funds start-ups; wants 1-75% ownership.
0.25	1.5	0.7	–	△	–	–	Likes direct approach; funds start-ups; accepts under 50% ownership; seeks 30-50% ROI for 5 years.
0.2	3	1.5	–	△	–	–	
0.2	0.5	0.4	–	△	–	–	Likes direct approach; funds start-ups and early stages; wants up to 50% ownership; seeks 30-50% ROI for 5-7 years; likes energy companies.
0.125	1	0.7	–	–	–	△	Accepts under 10% ownership; seeks 22-23% ROI for less than 12 years.
0.5	3	0.9	△	△	△	△	Accepts 2-40% ownership; seeks 25% ROI for 3-10 years; prefers mfg. and dist.
0.5	2	1	–	△	–	–	Likes referrals or mail approach; funds start-ups and early stages; seeks 3-65% ownership; wants 30% ROI for 5 years.
0.15	15	NA	---- Combination ----			△	Wants minimum 20% ownership; seeks 25% ROI, long term; likes chem. rel. companies.
0.5	NA	1	△	–	△	–	Funds second stages; wants 20-80% ownership; seeks ROI of 10x in 7 years.
0.1	0.35	0.25	△	–	△	△	Likes direct approach; seeks 25-30% ROI for 5-7 years; experts in broadcasting and real estate.
0.05	1	0.75	△	△	△	△	Likes direct approach; seeks ROI of 10x in 5 years.
1	4	2	△	△	△	–	Likes direct approach; prefers leveraged buyouts, no start-ups; wants 20-80% ownership, 50% preferred; seeks 20-30% ROI in 3½-7 years.
0.25	1.5	0.6	–	△	△	△	Seeks ROI of 3-5x in 3-7 years; no real estate.
0.25	1.5	0.75	△	△	△	△	Likes direct approach; up to 60% ownership; seeks 40% ROI for 5 years.
0.25	1	0.4	–	△[3]	△	△	Up to 60% ownership.
0.15	1.5	1	–	△	–	–	Funds start-ups and early stages; seeks ROI of 25% for 5-8 years.
0.25	2	0.75	△	–	△	△	Accepts under 50% ownership; seeks 30% ROI for 3-5 years.
0.017	10	0.4	△	–	△	–	Wants 4-100% ownership; seeks ROI of 5-10x in 5-7 years; no real estate.
0.25	1	0.5	△	△	–	△	Does not fund start-ups; accepts under 51% ownership; prefers energy and electr.
0.4	0.8	0.6	△	△	–	△	Likes high-tech mfg.; leasing companies.
0.25	0.3	0.4	△	–	△	△	Likes communications and energy companies.
1	None	NA	–	△	△	△	Funds start-ups to second stages; wants 30-90% ownership.
0.5	2	0.8	–	△[3]	–	–	Accepts under 50% ownership; seeks ROI of 10x in 5-7 years; prefers tech. mfg.
.5	3	1.5	△	△[3]	△	△	Likes direct approach; seeks 25-35% ROI for 5 years.
1.5	2	1	–	△	–	–	Accepts 30-40% ownership early, 10% mature; seeks 50% ROI for 5-7 years (early), 35%, comp. 3-5 years (mature).
0.25	0.6	0.4	△	△[4]	△	△	Funds first and second stages; no real estate or construction.
0.25	0.75	0.4	–	△	–	–	Likes referral; accepts under 50% ownership; seeks 30-40% ROI for 5-15 years.
0.25	0.75	0.5	–	△	–	–	Funds start-ups; seeks ROI of 10-20x in 5 years.
0.5	3	1.5	–	△	–	–	
0.1	0.5	0.4	–	△	–	–	Likes referral; funds seed/early stages; wants 5-60% ownership.
0.4	1.8	0.5	–	△	–	△	Accepts 10-30% ownership (wants more for start-ups); seeks ROI of 30% for 5-7 years.
0.3	None	1	–	△	–	–	Wants up to 100% ownership; prefers high tech and basic minerals.

Note—The data for this table is based on a recent research study supported by Northeastern University, Boston, Mass. The study was conducted at the College of Business Administration by Professor Jeffry A. Timmons and research assistants Mary Ellen Durning, Jeffrey Goodman, and Linda Marcellino. The 50 firms identified were drawn from an estimated 660 organizations currently in the venture capital industry (250 independent private firms, 350 Small Business Investment Companies, and 60 corporate venture capital units). The study will serve as the basis for a book entitled *Insider's Guide to Small Business Resources*, co-authored by Professor Timmons and Boston journalist David E. Gumpert. The book will be published by Doubleday, New York, in early 1982.

BEST AVAILABLE COPY

Inc.

THE MAGAZINE FOR
GROWING COMPANIES

C4687-1

OCTOBER 1981
$2.00

THIS MAN HAS CHANGED BUSINESS FOREVER

What personal computers can do for you

YOU AND YOUR SECRETARY

ART BUCHWALD VS. THE ATTORNEY GENERAL

HOW THE TAX CUT AFFECTS YOU

330004 452 OWCSRI95 444DSAMPLE
CONGRESSIONAL INFO COPY
SRI ACQUISITIONS 10
4520 EAST-WEST HWY CTY
WASHINGTON DC 20014
71486 02959

BEST AVAILABLE COPY

OCTOBER 1981

CONTENTS

Personal Business Computers

It's time to join the computer age
You've heard it before, but this time it's true. Even the smallest businesses can use these tiny machines and off-the-shelf programs productively. **46**

How to buy a little computer
Walk into a store, plunk your money down, and carry it out under your arm. **49**

An Apple on every desk **50**

Jim Umbaugh used to hate computers **52**

A buyer's guide to personal business computers **56**

Smokenders founder Rogers: New management allows her ideas to flourish.

Smokenders kicked its bureaucratic habits
Founder Jacquelyn Rogers almost went bankrupt before new managers cut the company down to size. **64**

How to write a personnel manual
A carefully written handbook for your employees can improve morale, prevent disagreements, and even keep you out of court. **69**

More than a secretary
George Umble had too much work and too little time. Then he learned to use his secretary more efficiently. **77**

Kinder-Care's standard formula for success
Day-care centers used to be a cottage industry until Perry Mendel created a model center and duplicated it all over the country. **84**

INC. Special Report:
State Business Climates

Report card on the states
Ten states are great homes for small companies; five states aren't. **90**

The top 10 states in six categories **92**

Super deli
Zabar's grosses $12 million a year in New York City. **102**

Irv Lefkowitz of Zabar's with golden delicacy.

A $30-million company that never got off the ground
Everybody wanted to see Advent Corp. lead us into the video revolution. But each of the company's leaders pushed it in a new direction. **112**

How the tax cut affects you
The Reagan tax package doesn't help your business as much as it helps you. **120**

I unchained my chain of command
There's a right way and a wrong way to delegate authority. The author's now much happier and more in control with the right structure. **129**

COPYRIGHT © 1981 BY INC. PUBLISHING COMPANY All rights reserved.

INC. is published monthly by Inc. Publishing Company. ISSN: 0162-8968. Editorial and executive offices at 38 Commercial Wharf, Boston, MA 02110. Telephone (617) 227-4700. Bernard A. Goldhirsh, President; John W. Carlson, Vice-President; Norman Raben, Vice-President; William C. Taylor, Vice-President. ☐ **SUBSCRIPTION:** One-year subscription rate for U.S. and possessions, $18.00; Canada, $30.00. All other countries, one-year subscription rate $45.00, cash orders only, payable in U.S. currency. Forms 3579 and all subscription correspondence should be addressed to INC. Magazine, P.O. Box 2538, Boulder, CO 80322, (800) 525-0643. Please allow at least six weeks for change of address. Include your old address as well as new, and enclose if possible an address label from a recent issue. ☐ Controlled circulation postage paid at Boston, Mass., and at additional mailing offices. Material in this publication may not be stored or reproduced in any form without permission. Requests for permission should be directed to Rights and Permissions Editor, INC., 38 Commercial Wharf, Boston, MA 02110.

VOL.3, NO.10

DEPARTMENTS

From the editor 7

Letters 10

Speaking out 13
Statistics can't tell you where to do business.

Economic issues 15
Taxes aren't high unless you have to pay them.

People & innovations 20

News & trends 22
New stock exemptions for small business; Entrepreneurial gold rush in low-power TV; "Businessman's Bank" serves entrepreneurs; Nashville Small Business Conference.

National affairs 35
Enterprise zones: What's everyone arguing about?

INC. interview 39
Canadian John Bulloch says that "no country can afford totally free enterprise."

Time out 131
Sporting collectibles provide pleasure while you make money on them.

Mind & body 135
The art of listening well.

Investing in growth companies 136

Street talk 141
How growth stocks perform in a bear market.

Venture capital 144
Will Reagan turn off the SBIC spigot?

The law 149
Minitrials are a cheap and quick alternative to skyrocketing legal costs.

Marketing 152
Tips for trade shows.

Managing people 154
Alcoholism in the office.

Ideas you can use 156
Cut the cost of crime insurance; Advertise wisely: Less can be more; Help in exploring new product ideas.

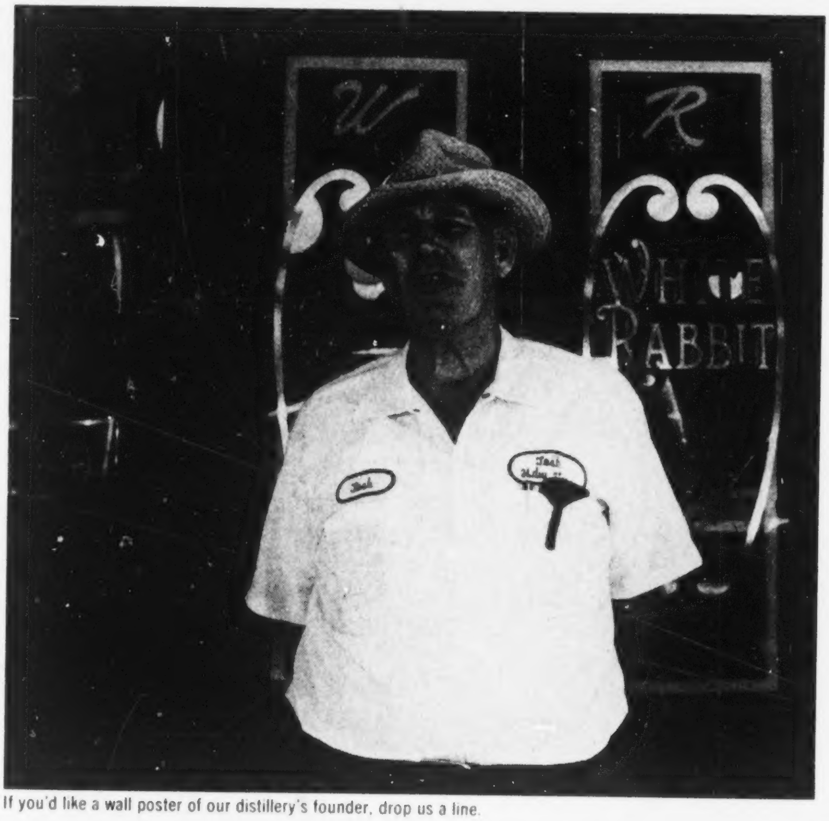
Books 161
Help for the computer buyer.

Off the record 162
Merger mania: Art Buchwald vs. the attorney general

The buck stops here 164

Cover photo
Andree Abecassis

Issue editors
Christopher A. Leach
Roberta W. Shell



If you'd like a wall poster of our distillery's founder, drop us a line.

MR. CLAYTON TOSH has more good tales about Jack Daniel than most folks can ever believe.

He'll tell you that Mr. Jack promised marriage to two girls at once in 1875; that nobody ever saw him without a coat and tie; and that he perfected a way of manufacturing his whiskey (called charcoal mellowing) that made it uncommonly smooth. Of course, there's no one living who can vouch for the first two tales. But after a sip of Jack Daniel's, most everyone goes along with the third.

CHARCOAL MELLOWED
DROP
BY DROP

Tennessee Whiskey • 90 Proof • Distilled and Bottled by Jack Daniel Distillery
Lem Motlow, Prop., Inc., Route 1, Lynchburg (Pop. 361), Tennessee 37352
Placed in the National Register of Historic Places by the United States Government.

TAXES AREN'T HIGH UNLESS YOU HAVE TO PAY THEM

Some states tax individuals more, some tax companies more. What's important is the mix.

By Robert E. Berney

States competing for growing businesses, particularly high-technology companies, dangle a smorgasbord of incentives before their targets. Of them all, perhaps the most frequently mentioned is the "favorable tax climate" you'll enjoy if you move. And ask any group of businessmen what they dislike most about their current home and 8 times out of 10 they'll say "high taxes."

Most small businesses, of course, can't or don't pull up stakes and move from one part of the country to another. Still, it's important to examine the real impact of tax rates on a business climate. What kinds of taxes are generally favorable to smaller companies? What kind of tax structure should you look for if you are thinking about expanding in another state? And if you're staying put, what difference do taxes make in your competitive position?

The accompanying chart shows some significant tax differences among the states; it also points out how difficult it is to generalize about the effect of taxes on a state's business climate. The percentage of state and local taxes that fall primarily on business ranges from 63% in Alaska to 21% in Nebraska. So, you might expect that it's three times as hard to do business in Alaska as in Nebraska. But everyone knows that Alaska, unlike Nebraska, is growing rapidly. It's clear from the chart that a lot of the states that tax businesses heavily are those that are growing—and growing states obviously have growing businesses.

Take Texas, for example. It ranks fifth on the chart, but since it has no corporate income tax, it is thought to have a good business climate. A lot of small business start-ups (and a lot of small business deaths) occur there. Though it relies more heavily than most states on taxes that businesses pay, business incomes are high in Texas, so the total tax burden is not particularly oppressive.

Personal taxes can be as important in doing business as business taxes. If employees must pay much of their income to the state, you'll have to pay them more to compensate.

How much you get for your taxes is as important as how much you pay. In his study of business birth and expansion all over the United States, David Birch, of the Massachusetts Institute of Technology, found that businesses expanded more often in high property tax areas than in ones with low property taxes. Taxes buy government services, and few companies or good employees want to put up with poor services.

Before you consider moving from a state with a high business tax rate to one with a low rate, you need to analyze the benefits to be derived from government services to you, your employees, and your customers. Labor, transporation, capital, and energy costs may be greater than the taxes you would save by moving, and those high state and local taxes also mean a signifi-

TAX BURDENS AMONG THE STATES

State	Bus. tax to total tax[1]	Corporate tax rate[2] Range	No. of steps
1. Alaska	63.3	5.4% + 4% surtax	1
2. Louisiana	52.2	4%–8%	5
3. Wyoming	51.4	None	
4. West Virginia	45.4	6%	1
5. Texas	42.6	None	
6. New Mexico	39.7	4%–6%	3
7. Montana	38.1	6.75%	1
8. Oklahoma	35.1	4%	1
9. Washington	35.1	None	
10. Tennessee	34.9	6%	1
11. Delaware	34.2	8.7%	1
12. Connecticut	33.4	10%	1
13. Kansas	33.0	4.5% + 2.25% surtax over $25,000	2
14. Ohio	32.9	4%–8%	2
15. Nevada	32.7	None	
16. Alabama	32.6	5%	1
17. Florida	32.0	5%	1
18. Illinois	32.0	4%	1
19. District of Columbia	31.9	9% + 10% surtax	1
20. Arizona	31.8	2.5%–10.5%	7
21. Mississippi	31.7	3%–4%	2
22. Colorado	31.1	5%	1
23. California	31.0	9.6%	1
24. Missouri	30.9	5%	1
25. New York	30.4	10%	1
26. New Hampshire	30.1	8%	1
27. New Jersey	29.8	9%	1
28. Indiana	29.6	3%	1
29. Pennsylvania	29.4	10.5%	1
30. Utah	28.9	4%	1
31. Kentucky	28.8	3%–6%	4
32. Michigan	28.5	None	
33. Virginia	28.4	6%	1
34. Oregon	28.3	7.5%	1
35. Arkansas	27.6	1%–6%	5
36. Idaho	27.6	6.5%	1
37. North Carolina	26.7	6%	1
38. North Dakota	26.7	2%–7%	6
39. Rhode Island	26.7	8%	1
40. Vermont	26.6	5%–7.5%	4
41. Minnesota	26.2	12%	1
42. South Carolina	26.1	6%	1
43. Georgia	25.7	6%	1
44. Hawaii	25.3	5.85%–6.435%	2
45. Maine	24.6	4.95%–6.93%	2
46. Maryland	24.1	7%	1
47. Massachusetts	23.5	8.33% + 14% surtax	1
48. South Dakota	22.8	None	
49. Wisconsin	22.5	2.3%–7.9%	7
50. Iowa	21.5	6%–10%	3
51. Nebraska	20.8	3.75%–4.125%	2

Source: Advisory Commission on Intergovernmental Relations, *Interstate Tax Competition* (Report A-76), and Commerce Clearing House, *State Tax Guide*.

[1] Business taxes include unemployment, property, sales and gross receipts, corporate net income, severance, licenses fees, and other charges paid directly by business. Data is for 1977.

[2] Rates are for 1981. For more detail see *State Tax Guide*.

Best Western 1981
Road Atlas & Travel Guide
Turn in, America!

Turn in, America!

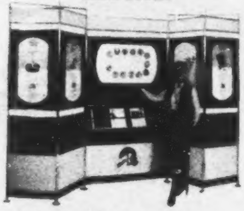
Turn in at a Best Western near you for your free copy of the 1981 Best Western Road Atlas and Travel Guide, or send your name, address and $3.00 for handling and shipping to:
Travel Guide, Best Western International, P.O. Box 13410, Phoenix, AZ 85004.
Make reservations at any Best Western; see your travel agent or consult your Yellow Pages for a listing of our 24-hour toll-free numbers.

Best Western

Places to stay, people you'll like!

2,734 Places in 1,947 cities worldwide

United States, Aruba, Puerto Rico, Virgin Islands, Andorra, Australia, Austria, Canada, Denmark, Finland, France, Great Britain, Ireland, Liechtenstein, Luxembourg, Mexico, New Zealand, Spain, Sweden, Switzerland, West Germany



If you have a product to sell, or a story to tell...

do it the convenient, economical way with EXPOFRAME, the most versatile modular display system, and reduce your trade show costs.

Clip coupon, or call Kelly:

Outside N. Carolina, incl. Alaska, Hawaii, & P.R. 800-334-0690
N. Carolina Only 800-672-0438

EXPO COMMUNICATIONS
THE MODULAR DISPLAY PEOPLE
1206 N. 23rd St., Wilmington, N.C. 28402
GSA contract number GS-07S-06579

INC-1081
NAME
TITLE
COMPANY
ADDRESS
CITY STATE
ZIP PHONE

Circle No. 371 on Reader Service Card.

GUIDED INDEPENDENT STUDY PROGRAM

Bachelor, Master, Doctorate

- Business Administration
- Engineering
- Education
- Health Services Management

These specialized degree programs are designed for active professional administrators and managers who want to enhance their career positions through our GUIDED INDEPENDENT STUDY PROGRAMS (GISP). College credit for work experience. Studies build upon experience related to your career. Studies self-paced, no classes, seminars or residency. **For a no-cost evaluation send resume, or call (213) 278-1094.**

☐ Send For Free Catalog
Name
Address
City State
Zip Tel.(Ho) (Wo)

Century University
9100 Wilshire Blvd.
Dept. 40,
Beverly Hills, Ca. 90212

Circle No. 307 on Reader Service Card.

ECONOMIC ISSUES *(from page 15)*

cant reduction in your federal tax liability. Firms that want to expand or relocate ought to look first for areas with more rapidly growing markets and lower labor and capital costs, and only then examine the tax structure.

But how do you judge the effects of taxes in a given place on your own ability to compete? Payroll taxes hit labor-intensive firms—usually the smaller ones—harder than the capital-intensive ones. Property tax reforms such as California's Proposition 13 benefit companies with large land and real estate holdings. Liberal depreciation schedules benefit capital-intensive companies that have significant profits; they often put at a competitive disadvantage the growing smaller companies that are labor-intensive and have yet to realize significant profits.

It's difficult to generalize about the kind of tax structure that would benefit all small businesses, because their production processes differ so greatly. But smaller companies benefit most from the following kinds of taxes:

☐ Net profit taxes are preferable to sales or gross receipts taxes for new and rapidly expanding firms whose sales are usually growing more rapidly than their profits.

☐ A corporate income tax with a progressive rate structure like Wisconsin's, Kentucky's, or Arizona's is preferable to one that takes a fixed percentage of profits, like California's, New York's, or Minnesota's. A growing firm's profits are likely to be lower than those of its established competitors.

☐ The value-added tax doesn't discriminate between labor-intensive and capital-intensive firms, so it's preferable to payroll or property taxes.

☐ A personal property tax that doesn't include inventories benefits smaller retailers and wholesalers, who tend to be inventory-intensive.

Since state and local governments are becoming more sensitive about creating a desirable business climate and are using business subsidies defensively, to keep rapidly growing firms from expanding in other states, they need to hear your views on what taxes put you at a competitive disadvantage. No public official wants to be responsible for a runaway plant. The time is right to develop your political leverage through small business and trade associations. ☐

A professor at Washington State University, Robert E. Berney specializes in the economics of small business.

By Kuldarshan Padda

REPORT CARD ON THE STATES

Ten states are great homes for small companies; five states aren't.

BEST AVAILABLE COPY

Ask any small businessman which state has the *best* business climate, and you can bet he'll give his home state as the answer. At a different time, ask the same businessman which state has the *worst* business climate, and you can bet he'll give you his home state as the answer.

To bring some objectivity to the process of analyzing the business climate in each of the 50 states, INC. researched over 50 factors in six areas of doing business: tax burdens, labor, capital resources, official commitment to small business, energy costs, and quality of life. We have ranked the top 10 states in each of the six areas. The rankings and an explanation of the factors involved in each ranking begin on page 92.

In addition, INC. decided to give each state a report card based on the combi-

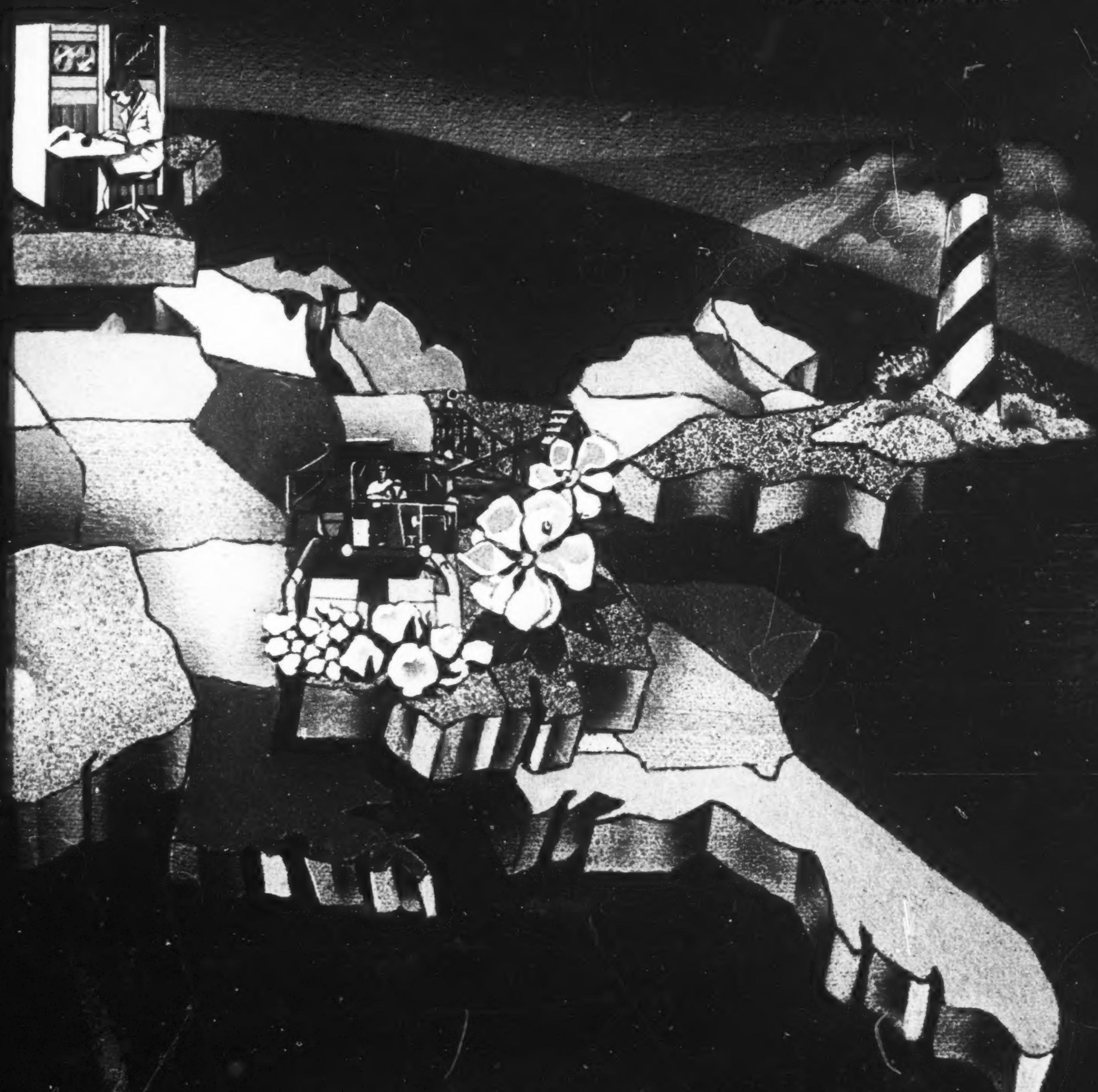


Illustration by Bunny Carter

BEST AVAILABLE COPY

nation of five of the individual rankings (excluding quality of life, which is so subjective). We've assigned each state a letter grade, from A through F, and published each report card in the table on pages 96 and 97. The results (10 A's, 18 B's, 11 C's, 6 D's, and 5 F's) are often surprising. You wouldn't think, for instance, of **North Dakota** and **Idaho** as states rating an A for small business climate. Both follow much the same formula for getting that grade: very high rates of small business activity (number of small companies per 1,000 population), excellent labor conditions, and light tax burdens. Both states share the same failings: weak official commitment to small business on state programs and limited capital available to home-state businesses. Idaho, in particular, gets good grades for its lower energy costs.

Minnesota has a fairly heavy tax burden, but gets an A for its efforts to attract high-technology companies. The state is one of the top five in its official sensitivity to the needs of small business, and offers a large pool of capital to its entrepreneurs. **Colorado** gets an A from its above-average labor climate, its light tax burden, and a positive ranking in the cost of energy.

Both **Arizona** and **California** get an A because of their governments' respective commitments to helping out small business. Beyond that similarity, the two states diverge: Arizona has a light tax burden, low energy costs, and a good labor situation, although it doesn't offer entrepreneurs much in the way of capital resources. California, on the other hand, has the second largest pool of venture capital, but is seriously weakened by high taxes and high labor costs.

While no state in the Northeast earned an A, four southern states came out tops: Texas, Mississippi, Alabama, and North Carolina. If any state could be pegged as Number 1 overall as a place to run a small company, **Texas** would be the one. (We wanted to avoid ranking the states' overall climates because the decision about where to do business is so complex that it grossly oversimplifies the problem to say that one state is the best place for all small businesses.) Texas made the top 10 in labor, taxes, and capital resources: more top rankings than any other state. Though **Alabama** is hurt by its labor climate, the

THE TOP 10 STATES IN SIX CATEGORIES

CAPITAL RESOURCES
1. New York
2. California
3. Massachusetts
4. Connecticut
5. Minnesota
6. Texas
7. Pennsylvania
8. Alabama
9. New Jersey
10. Mississippi

One of the biggest headaches every entrepreneur faces is the task of raising seed capital. And if his company not only survives but grows, he often must raise second and third phase financing as well. This ranking measures the availability of that money by gauging the "looseness" or "tightness" of investment capital in the 50 states. In which states do the money sources seem most willing to invest in young and growing companies?

Not surprisingly, the top 10 include most of the acknowledged money centers in this country. The only ones conspicuous in their absence are Illinois and Florida. Illinois's failure to make the top 10 list reflects an extremely low Small Business Investment Company activity and Industrial Revenue Bond issuance rate ($4 per capita vs. the national average of $40 per capita). Florida, which ranks No. 47, lacks a loan program tailored to small business and satisfactory IRB issuance. Florida is further hindered by a conservative banking community.

New York achieved the No. 1 position through an extremely aggressive banking community as well as a preponderance of venture capitalists and other investors willing to risk participation in startups and young companies. California also boasts an aggressive banking community, high SBIC activity, and, like New York, a large number of investors willing to take risks.

Massachusetts, Connecticut, and Minnesota all have aggressive banking communities and active SBIC programs. Connecticut, in fact, is the national leader in SBIC activity. Minnesota and Massachusetts possess very active IRB programs as well.

Pennsylvania and Alabama are hobbled by a lack of small business loan programs. But they both managed to make the top 10, the former by claiming the nation's most active IRB authority and the latter by registering the second most active SBIC program. Mississippi overcame the handicap of a cautious banking community to earn a top slot by promoting the second most active IRB authority along with a well-run SBIC program.

Anchoring the opposite end of the spectrum, West Virginia finds itself in the company of Nevada, Nebraska, Kansas, Alaska, and Hawaii. Geographically a rather diverse crew, these states can all be characterized as having average to nonexistent IRB sales and SBICs. All except Alaska are also the victims of banking communities that are recalcitrant when it comes to lending.

ENERGY COSTS
1. Hawaii
2. Alaska
3. Washington
4. Montana
5. Oregon
6. Wyoming
7. Idaho
8. Maine
9. Louisiana
10. Florida

Hawaii number one? A Sunbelt oil producer like Texas or Oklahoma would seem to be a more logical choice. How could an island that is forced to import all its fuels have the lowest energy costs? The answer lies in Hawaii's climate.

The formula used for calculating energy costs took into account the raw cost per Btu for electricity, heating oil, and natural gas. The formula calculated the percent use of oil and natural gas for heating and then constructed the total heating dollar by multiplying the percent use times the raw cost for each fuel. This figure was then plugged into a formula incorporating the number of heating days, while the price of electricity was factored into the number of cooling days. Also taken into account were the electricity costs involved in day-to-day operations, such as office lighting and running plant machinery.

Thus, despite some of the highest energy costs, Hawaii, with a climate tempered by ocean breezes, has no heating bills. Alaska, on the other hand, despite a large number of heating days, managed to score well due to no cooling bills and the availability of natural gas at one-third the national average cost. Limited cooling needs also earned Maine a position among the top 10.

Washington and Oregon ranked high, based on dirt-cheap electricity provided by abundant hydroelectric power. Montana and Idaho attribute their low energy bills to a combination of very cheap

A NOTE FROM THE EDITOR

INC.'s first Special Report on the state's small business climates must be read with care because it is a *first* report. We know from our experience with similar surveys that it takes two to three years of doing a particular report to find the best and most comprehensive ways of compiling them. We think this first report on the states gives as fair and accurate a picture of those factors analyzed as possible. We also know that each state can make a better case for its own achievements in its appeals to some particular kind of business or industry.

We will, however, engage in a continuing technical review of how to improve this report during the next year. We will talk with state officials, academic specialists, and small business leaders. And we will be particularly interested in our readers' response to the report, for which we've provided a postpaid card bound in at a page 94.

During the next months, we will also study what the executive and legislative branches of each state's government is doing to specifically improve its attractiveness to small businesses. We will select for special citation those states that have taken the most promising steps for small business in certain areas: taxes, regulation, paperwork, capital, credit, procurement, data collection, management assistance, and others.

In 1980, the National Governor's Association adopted a resolution at their annual meeting in Denver, Colo., which signaled a higher priority for small business at the state level. In part it said, "From a state and local economic development standpoint, small businesses offer considerable potential for ensuring economic diversity, stability, and long-term growth. The governors pledge their cooperation in working at both the state and national levels to encourage the growth and development of America's small business."

Since that conference, we've heard of some promising beginnings in what we think could be called the "50 State Small Business Sweepstakes," in which there are literally no losers.

—Milton D. Stewart, Editor

electricity generated through hydro power and petroleum, as well as the availability of natural gas and heating oil at well below the national average cost. Wyoming, too, claims low electricity costs, through cheap coal. It also has natural gas at costs well below the national average.

At the bottom of the rankings are the Middle Atlantic and southern New England states. Spanning an arc from Virginia to Massachusetts, these states are beset by hefty heating and cooling costs, but lack the cheap energy available to western states lying at the same latitude.

SMALL BUSINESS COMMITMENT

1. California
2. New York
3. Minnesota
4. Massachusetts
5. Kentucky
6. Illinois
7. Wisconsin
8. Michigan
9. Connecticut
10. Ohio

Visit almost any state in the nation and you will hear the familiar complaint, "Our state government is one of the worst. The fellas in the state capital just don't care about small business." Same old belly-aching you say? Not if you are talking with an entrepreneur from Nevada, Wyoming, or South Dakota. All three states rank among the bottom 10 in terms of budget policies and commitment to small business programs. South Dakota, in fact, is No. 50 in this respect.

INC. analyzed the level of support among state legislatures for small business, as well as their attitude toward expenditures and revenues in general. These factors (see table on page 96) were correlated in a computer model to generate a ranking of the 50 states based on their support of small business.

The top 10 found their niche through solid commitment to small business programs, such as procurement setasides, advisory offices, and significant legislative activity favoring smaller enterprises. It is essentially the strength of these programs rather than the presence of balanced budgets that propelled them to the head of the pack.

LABOR

1. North Dakota
2. South Carolina
3. North Carolina
4. Idaho
5. Florida
6. New Mexico
7. Utah
8. Texas
9. New Hampshire
10. Kansas

Armed with a labor force that is willing to work for one of the lowest wage rates in the country and that does not believe in striking, North Dakota tops the list in the labor category. The only Achilles' heel the state exhibits is a rather tight labor pool, with one of the lowest unemployment rates in the country.

The ranking took into account many factors including union strength, militancy, and recent success in recruiting; wage rates; and the ability to find skilled workers to fill both blue- and white-collar positions.

Taking second and third place are South Carolina and North Carolina. Their strength lies in the fact that their workers get paid the lowest and third lowest wage rates, respectively, in the country and are the least unionized work forces as well. In fact, the Carolinas are organized at a level that is less than half the national average, and incredibly, this level has been decreasing in recent years. North Carolina's shortcoming is that it possesses a scarcity of skilled workers for blue-collar jobs, while South Carolina has a severe shortage of workers for white-collar positions. To compensate for these weaknesses, both states are funding two of the most extensive vocational programs in the country. Idaho's major selling points are a low strike rate and the fact that it is undergoing one of the most rapid deunionization rates. Florida and New Mexico boast two of the lowest wage rates as well as a very low strike rate among two of the least unionized work forces in the 50 states. Florida also spends the highest amount per worker on vocational training programs.

Utah has a well-trained, nonunion work force, but it also has a high wage rate and the manpower is in a tight market marked by low unemployment. Texas and New Hampshire have low unionization levels. New Hampshire also has a low wage rate but suffers from a tight labor market and a poorly funded vocational program.

Among those ranked at the bottom of the list are Indiana, West Virginia, Hawaii, Missouri, state shows exceptional performance in capital resources. **Mississippi** is helped out by its capital resources, primarily distributed through Industrial Revenue Bonds. And **North Carolina** gets particularly good grades for its labor pool and a low tax burden.

The second tier of states, those that got a B, include most of the industrial states in the country. **New York** and **Massachusetts**, for example, have enormous pools of capital for small business people, but also suffer from high taxes and energy costs. **Arkansas**, on the other hand, offers the fifth-best tax structure and reasonable energy costs, but has little capital. And **Maine** has an above-average small business activity rate, inexpensive labor, and insignificant cooling costs, but its economy is one of the most depressed in the country.

Pennsylvania and **Illinois** both got C grades, surprisingly. Those Philadelphia banks help their state get a top-10 ranking in capital resources, but the state is hurt by high taxes, high energy costs, a poor labor picture, and an abysmal rate of small business activity. Illinois, on the other hand, has a surprisingly strong commitment to small business through government programs and a fair amount of capital, but is hurt by its labor and energy costs.

Iowa and Maryland are surprising states to get a D on small business climate. While **Maryland** has an awakening interest in small companies, particularly high-technology firms, it ranks in the bottom 10 for its tax burden and its energy costs. And **Iowa** scores well in its tax structure and its government support of small business, but is hurt by a tight labor supply and a shortage of venture capital.

The five states that earned a failing grade are, perhaps, most interesting of all 50. **Hawaii** is a great place to visit, but it's a tough place to run a business. It has the lowest energy costs in the country, but it's number 49 in taxes, number 48 in labor, and gets poor marks for capital resources and official support for small business. **West Virginia**'s government is sensitive to small business, but the state ranks in the bottom five for labor, taxes, and capital resources, and has the lowest rate of small business activity in the country.

Delaware ranks in the bottom five in

Michigan, Pennsylvania, Ohio, and Oregon, where workers earn among the highest hourly wages in the nation and are unionized at two to four times the level of workers in the top 10 states. The union activity in these lowest ranked states is marked by militancy and memberships that are much more willing to pursue job actions to achieve their goals.

TAXES

1. Nebraska
2. Arizona
3. Texas
4. Indiana
5. Arkansas
6. New Hampshire
7. North Dakota
8. Missouri
9. South Dakota
10. Colorado

Tax rates, it can be argued, are the most important factor in any comparison of state business climates. However, it is often the presence of nontaxation or exemption from taxation that can be the critical element in a fledgling company's survival and growth. Unfortunately, the wide diversity of small business makes it impossible to quantify the exemptions (see table on page 96) offered by each state.

To quantify tax policies for a state-by-state ranking, INC. weighed the tax burden per capita, the recent trends in that burden, and the future trend based on state debt. The tax burden borne by small business was not used because timely and accurate data is not available. Unemployment related taxes, however, were incorporated to more closely approximate the cost of operating a business in each state in tax terms. Nebraska, for example, emerges as No. 1 due to strong performance in all categories but particularly because of a very low employer contribution rate to the state's unemployment compensation fund.

Arizona claims very low debt per capita, leading to the expectation of a low tax rate in the future. The state also has a wealthy unemployment compensation fund that promises low unemployment taxes in the future.

Texas has low debt per capita, but even more important is the absence of a corporate or personal income tax. The Lone Star State also has the lowest employer unemployment contribution rate.

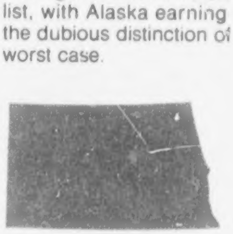
Arkansas scores well in all categories and is especially notable for one of the lowest percentage increases in taxes from 1979 to 1980.

Claiming the lowest taxation rate in the country, New Hampshire has not only avoided taxing personal income but has also kept the lid on its unemployment contribution rate.

North Dakota has a low tax rate, a small debt, and its taxes rose the least in the nation from 1979-80.

Low tax burdens also earn Missouri, South Dakota, and Colorado top 10 rankings.

As expected, states like Massachusetts, New York, and Minnesota, with notoriously high tax rates, are standouts among the bottom 10 on the list, with Alaska earning the dubious distinction of worst case.



QUALITY OF LIFE

1. North Dakota
2. Iowa
3. South Dakota
4. Wyoming
5. Hawaii
6. Rhode Island
7. New Hampshire
8. Vermont
9. Montana
10. Florida

Could North Dakota rank first in quality of life? Where's California, that mecca of sunseekers and trendsetters? The answer lies in how the quality-of-life factors were tabulated. Unlike the other rankings, for which it was possible to create fairly accurate models that evaluated various factors on the basis of their importance to small business, the quality of life is something that is totally subjective. For example, how does one explain to the ski buff in Colorado that Florida's beaches contribute more to the quality of life than ski trails?

In fact, it is impossible to weight factors for differing lifestyles in the same scale. To establish some measure, however, INC's computer selected the states that were the best for the lifestyles they represent. The factors incorporated in the calculations ranged from cultural elements such as orchestras and opera, to quality of health care and education, recreational facilities, and the cost of living. The result is a list of 10 states that represent the best of their breed when personal preferences are considered.

North Dakota, for example, earns top billing on the basis of its crime rate (lowest in the nation), long life expectancy, and lower cost of living. Ditto Iowa, New Hampshire, and Vermont. If your preference, however, is culture, health care, and other factors associated with living near metropolitan areas, then Rhode Island, Massachusetts (No. 13), or New York (No. 14) are good bets. Sun, surf, and sand? Hawaii or Florida.

And what about California? Based on high cost of living, a tight housing market, and a high crime rate (second in the nation), the Bear Republic emerges as No. 32, just behind Minnesota and North Carolina and just ahead of Oregon and Pennsylvania in a ranking best left to humans.

STATE	INC. overall rating[1]	TAXES[2]			CAPITAL RESOURCES[4]				
		Per capita	Unempl.	Exemptions[3]	SBIC index	IRB issues per capita	Gen. obl. bonds	State loans	Bank loans[5]
Alabama	A	$ 493	2.6%	C, P, E, L, M, I, N, R	276.53	$ 66	NO	NO	15.5%
Alaska	D	3,541	4.8	E, N	23.78	0	YES	YES	19.7
Arizona	A	688	2.2	C, P, I	24.59	45	NO	NO	15.6
Arkansas	B	532	2.1	I, N	32.64	45	NO	NO	13.6
California	A	853	3.4	I	116.42	0	NO	YES	18.9
Colorado	A	538	1.3	C,[8] P, E, N	106.92	15	NO	NO	17.8
Connecticut	C	591	2.6	P,[9] M,[10] I	388.04	31	YES	YES	17.9
Delaware	F	886	2.8	C, E,[11] L, M, I, N	39.21	43	YES	YES	8.5
Florida	B	542	2.0	C, P,[0] E,[11] I,[12] N	80.45	18	NO	NO	10.3
Georgia	B	533	1.9	L, I, N	45.32	31	NO	NO	14.2
Hawaii	F	1,091	2.8	E	40.18	NA	YES	YES	14.4
Idaho	A	542	2.1	I, N	217.11	NA	NO	NO	16.7
Illinois	C	630	3.3	L,[13] M, I, N,[14]	18.69	4	NO	YES	24.2
Indiana	B	499	1.6	L,[15] M, I,[16] N	27.31	72	NO	YES	12.1
Iowa	D	602	2.8	C,[17] L,[18] M,[19] I,[20]	8.19	45	NO	NO	11.8
Kansas	B	536	1.8	C,[8] L,[21] M,[21] I,[22] N,[21]	20.85	45	NO	NO	13.0
Kentucky	B	608	2.2	L,[23] M,[23] I,[23] N	49.45	22	NO	YES	13.2
Louisiana	C	595	3.3	C, L,[24] M, N, R	116.36	8	NO	NO	16.8
Maine	B	564	3.1	I, N, R	42.10	34	NO	YES	17.5
Maryland	D	665	3.8	L,[23] M, I, N, R,[25]	39.34	32	NO	YES	13.0
Massachusetts	B	681	3.5	C, M, N, R	140.35	64	NO	YES	23.0
Michigan	D	643	4.1	C, P, L,[26] M, I, N	27.17	30	NO	YES	14.5
Minnesota	A	789	2.3	C, P, E, L,[27] M, I, N,[28] R	106.98	99	NO	YES	17.6
Mississippi	A	578	2.1	P, L, M, I, N	133.64	100	NO	YES	12.5
Missouri	F	430	2.3	C, P, N	11.28	NA	NO	YES	14.5
Montana	B	554	2.9	C,[29] L, I,[30] N,[31]	11.34	27	NO	YES	15.4
Nebraska	C	549	1.3	I	.00	19	NO	NO	12.6
Nevada	F	679	3.0	C,[9] P,[9] I,[31]	32.20	NA	NO	NO	14.1
New Hampshire	B	302	1.8	P,[9] M, I, N	214.68	62	NO	YES	14.7
New Jersey	D	560	3.7	L, M,[19] I, N	87.56	79	YES	YES	14.2
New Mexico	B	746	2.1	M, I	248.59	6	NO	NO	18.0
New York	B	721	3.6	C,[32] P,[33] E,[11] L, M,[35] I, N, R	69.15	14	YES	NO	24.2
N. Carolina	A	574	2.1	I, N,[35]	50.78	36	NO	NO	18.1
N. Dakota	A	566	2.5	C, E, L,[36] M,[34] I, R[25]	.00	60	YES	YES	14.5
Ohio	B	444	2.4	C, P, L, M, I, N	44.22	67	NO	YES	14.8
Oklahoma	B	614	1.6	L,[21] M, I, N	106.01	96	NO	YES	16.7
Oregon	C	576	3.4	C, P, E,[37] L,[36] I, N	98.06	13	YES	YES	19.4
Pennsylvania	C	617	3.4	E, L, M,[38] I,[39] N, R	36.25	139	NO	NO	18.2
Rhode Island	D	593	2.9	L, M, I, N, R	24.44	67	NO	YES	20.3
S. Carolina	B	572	2.1	L, M, I, N, R	86.09	68	NO	NO	13.5
S. Dakota	B	393	1.3	C, P, E, L, I	201.01	24	NO	NO	13.4
Tennessee	B	431	1.8	P, L,[23] M, I, N	22.58	56	YES	YES	14.5
Texas	A	505	.6	C,[9] P, L,[40] M	117.71	22	NO	YES	21.0
Utah	C	575	1.7	I	35.27	42	NO	NO	18.6
Vermont	C	540	3.3	L, M, I, N	212.24	49	NO	YES	13.6
Virginia	C	528	1.1	L, M[23]	64.72	57	NO	NO	13.7
Washington	C	743	3.3	C,[9] P, E, L, M, I	126.98	0	NO	NO	25.1
W. Virginia	F	649	2.6	C, P, E, N	5.27	18	NO	NO	8.8
Wisconsin	B	713	3.2	C,[41] M, I, N	58.94	42	NO	NO	14.8
Wyoming	C	862	1.3	C,[9] P, E, I	68.35	88	NO	NO	17.0

LABOR[6]			SUPPORT[7]			
% Unempl.	% Union	Avg. hourly wage index	Procure-ment prog.	Assist office	Advisory board	Legis. committee
7.1	19.2	85	10%	NO	NO	NO
9.2	26.2	147	NO	YES	NO	NO
5.1	13.8	99	YES	YES	NO	NO
6.2	15.0	77	NO	YES	NO	NO
6.2	23.7	104	YES	YES	YES	YES
4.8	15.2	102	NO	YES	YES	NO
5.1	21.9	98	15-25%	YES	NO	NO
8.0	21.7	100	NO	NO	NO	NO
6.0	11.7	79	NO	YES	YES	NO
5.1	13.6	77	YES	NO	YES	NO
6.3	32.1	94	NO	NO	NO	NO
5.7	14.3	100	NO	NO	NO	NO
5.5	31.5	112	YES	YES	NO	NO
6.4	29.3	118	YES	NO	NO	NO
4.1	19.2	118	NO	NO	NO	YES
3.4	12.8	100	10%	NO	NO	YES
5.6	22.4	99	YES	YES	YES	YES
6.7	16.0	103	10%	YES	NO	NO
7.2	18.3	84	NO	NO	NO	NO
5.9	21.0	101	YES	YES	NO	NO
5.5	24.4	90	5%	YES	NO	YES
7.8	34.6	133	YES	YES	NO	NO
4.2	24.4	104	20%	YES	NO	YES
5.8	12.4	72	YES	YES	NO	NO
4.5	30.0	98	NO	YES	NO	NO
5.1	24.1	115	YES	YES	YES	NO
3.2	15.3	100	NO	YES	NO	NO
5.1	22.9	104	NO	NO	NO	NO
3.1	13.3	80	NO	NO	NO	NO
6.9	23.0	101	NO	YES	NO	NO
6.6	12.1	78	NO	YES	NO	NO
7.1	39.2	99	YES	YES	YES	YES
4.8	6.5	72	YES	NO	YES	NO
3.7	14.7	89	NO	NO	YES	NO
5.9	29.5	121	NO	YES	YES	YES
3.4	13.5	99	NO	NO	NO	NO
6.8	23.1	117	NO	YES	NO	NO
6.9	34.2	105	YES	YES	YES	NO
6.6	27.1	77	NO	NO	YES	YES
5.0	6.7	74	NO	NO	NO	NO
3.5	10.3	89	NO	NO	NO	NO
5.8	17.7	81	NO	YES	YES	NO
4.2	11.0	95	10%	YES	YES	NO
4.3	13.0	95	NO	YES	NO	NO
5.1	17.5	85	NO	YES	NO	NO
4.7	12.7	83	NO	YES	NO	NO
6.8	33.1	129	YES	YES	NO	NO
6.7	36.8	110	NO	YES	YES	YES
4.5	27.8	112	YES	NO	YES	YES
2.8	14.9	97	NO	NO	NO	NO

FOOTNOTES

1. grade based on total points accumulated in 5 categories taxes, capital, labor, small business support, and energy

2. 1980 per capita data (Bureau of the Census); unempl. is % of total payroll employer pays in unemployment tax (U.S. Employment & Training Admin.).

3. Key: C-corporate income, P-personal income, E-excise, L-land/capital improvements, M-machinery/equip., I-manufacturer's inventory, N-new equip. sale/use tax, R-tax exemption to encourage R&D (Site Selection Handbook, Conway Publications Inc., Atlanta, Ga.)

4. 1980 Small Business Investment Company financing, 100= balance between share of SBIC financing and state economic activity (Small Business Administration); Small issue Industrial Revenue Bonds (Congressional Budget Office); general obligation bonds (Conway Publications), 1980 state loans (Directory of State Small Business Programs, Office of Chief Counsel for Advocacy, SBA)

5. total commercial & industrial loans as % of total bank assets (FDIC).

6. 1980 unemployment rate, seasonally adjusted (U.S. Bureau of Labor Statistics); % unionization (Directory of National Unions and Employee Assns., BLS); average hourly wage & fringe benefits for selected manufacturing (U.S. Dept. of Labor)

7. state government's commitment to small business programs, % procurement indicates percent of state purchases awarded small business (SBA)

8. 10-yr. credit for new business based on jobs investment;

9. state does not tax personal income, Nevada, Texas, Washington, and Wyoming also do not tax corporate income;

10. equip. acquired after 1973 exempt from local prop. tax;

11. does not levy excise tax;

12. inventory items assessed at 10% of just valuation;

13. available in Cook County;

14. phased, fully exempt 1984;

15. 10-yr. partial prop. tax abatement in urban areas;

16. finished goods destined out of state;

17. 50% of federal tax paid;

18. 5-yr. abatement on land & equip.

19. tangible property taxed at 1.3% of half its cost, tax repealed for equip. bought after 1/1/77;

20. first $58,500 of assessed taxable value of pers. prop.;

21. 10-yr. exemption on IRB-financed property;

22. applies to goods stored in licensed warehouse, provided at least 35% of prior year sales were shipped out of state;

23. local level only;

24. capital improvements only;

25. includes R&D equip.;

26. local option in redevelopment areas;

27. pollution equip. only;

28. detachable tools & equip. with useful life up to 1 yr.;

29. 1% credit based on wages, for first 3 yrs., to selected new industries;

30. all inventories reduced to 4% of market value;

31. no sale/use tax;

32. up to 10-yr. credit under job incentive program;

33. credit equal to 4% of qualified capital invested in new equip./facilities with useful life of 4 yrs. or more;

34. personal property;

35. 1% preferential rate on new equip., max. $80/article;

36. new construction only;

37. credits to manufacturers & processors for prop. taxes paid on goods in process;

38. sale/use tax excluded on items used in industrial production & research;

39. tangible personal prop. excluded from local tax;

40. 7-yr. annexation or deannexation exemption;

41. credit for sales tax paid on energy

taxes and energy costs, and **Missouri** makes the top 10 for its taxes, but ranks in the bottom 20 in labor, energy costs, and capital resources. And, unless you run a gambling business, **Nevada** may be one of the hardest states to do business in: The state ranks in the bottom 20 in every category.

Missouri, in particular, demonstrates the difficulties in grading states on their relative business climates. INC. didn't consider transportation costs in its analysis, and that factor is one of Missouri's advantages. Its location in the hub of the country's transportation system is an extremely important factor for companies with heavy shipping requirements.

In order to compute rankings in six areas of doing business and to assign a grade to each of the 50 states, INC. programmed a computer to weigh and compare more than 50 factors, based on data from numerous sources. We weighted these factors to reflect their importance to small businesses in general. For example, the availability of venture capital is far more important to smaller enterprises than giant corporations, so INC. placed more emphasis on that factor in ranking the states for capital resources. Likewise, we de-emphasized the importance of unions in the work force, because they affect smaller businesses less relative to large ones.

In addition, INC. generalized the computer model to make sure that the results of our analysis would be meaningful to a wide range of small companies. Energy costs, though, were analyzed for a high-technology, light-manufacturing company. Therefore the energy rankings would be somewhat different if the costs had been calculated from the point of view of a retail or service business, and considerably different for a heavy industrial manufacturing business.

Generalizing factors for whole states was also a problem. Tax burdens, for instance, are not necessarily uniform throughout the whole state. Maryland and Michigan both have very high tax burdens, but some aggressive areas within both states offer substantial property-tax exemptions. And California presents a significant problem in analyzing energy costs, because the whole state spans East Coast latitudes ranging from Connecticut in the north to South Carolina in the south. The degree days required for both heating and cooling cover wide ranges between the northern and southern latitudes. In addition, California, Florida, and New York are difficult states for calculating statewide labor climates: In each, the unemployment rates are higher in the southern, urban areas than in the northern, rural areas.

Perhaps the most difficult obstacles to creating an objective and meaningful critique of the states' small business climates is the highly subjective nature of the decision about where to locate a business. Among people who study this sort of decision, the current thinking is that most start-up businesses are located where their founders live. If the entrepreneur does have the luxury of deciding where to locate, the decision is most often based on factors that affect his business directly: proximity to markets in the case of regional, distribution companies, for example. Or the decision is based purely on the owner's lifestyle.

But a state's business climate does become particularly important in the case of companies that, having reached the expansion stage, want to find a good location for a new plant or branch office. And, from the state government's point of view, the true measure of managing the business climate well comes from the performance of those small companies already in the state. Without successful small companies, no state can look for real growth.

This report was prepared by Kuldarshan Padda, an editorial intern and Harvard undergraduate, with the assistance of INC. *senior editor Bradford W. Ketchum, Jr.*

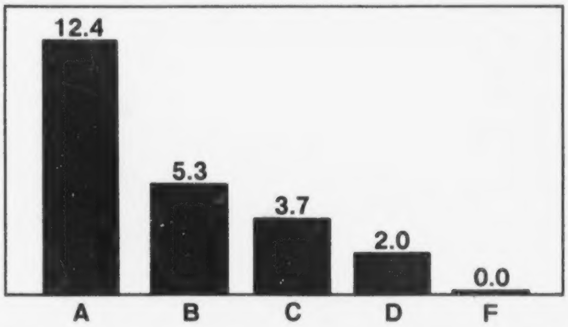
HIGH-PERFORMANCE COMPANIES LIVE IN HIGH-PERFORMANCE STATES

Not surprisingly, there is a direct correlation between the location of the country's fastest-growing, smaller companies and those states with the most positive climate for small business. When we matched up the location of the INC. 200 firms for the last three years and the states that earned an A in our analysis, we found that the top 20% of the states spawned 43% of the fast-growing companies.

From another angle, the relationship between business climate and the concentration of emerging companies becomes more clear. The average number of high-growth firms per state (adjusted) ranges from a high of 12.4 per A state to a low of 0 per F states.

We've adjusted the high-growth-companies-per-state formula to account for two anomalies: New Jersey and Missouri. New Jersey, a D state, has a high number of INC. 200 companies (19) for the last three years. But we discounted that because the business climate probably does less for emerging companies than the state's location in the bustling Northeast corridor. And Missouri is an anomaly: its one INC. 200 company, Billings, only recently moved there from Utah. Because most of the company's growth took place in Utah, we can't really give the credit to Missouri.

NUMBER OF INC. 200 COMPANIES (1979-81) PER STATE



HOW ABOUT PUERTO RICO AND THE VIRGIN ISLANDS?

Puerto Rico may be the perfect choice for companies who have reached the expansion stage, and are now deciding where to locate that new manufacturing plant. Over 30 INC. 200 companies would agree, that's how many have chosen the Puerto Rico option. Agressively pursuing the manufacturing industry (especially in high technology), this tropical island has put together a package of incentives that is hard to beat. Highlights of this package include a complete exemption from U.S. corporate income taxes along with a 90% exemption from Puerto Rican corporate income and property taxes. Another important benefit of operating in Puerto Rico is its low labor costs: less than half of the U.S. average. One of the many interesting programs that Puerto Rico offers is its twin plant concept. This involves sub-assembly work in foreign islands, elsewhere in the Caribbean, at dirt-cheap labor costs. The parts are then shipped back to Puerto Rico (U.S. tariff laws do not require taxation on re-imported parts), and final assembly work done.

These advantages led Puerto Rico located plants to achieve a profit-to-sales ratio of 22.6% compared to 5.7% of their counterparts on the mainland.

The major drawbacks of locating on the island are high shipping costs and management problems because of cultural shock. The high shipping cost can be turned into an advantage if you are interested in servicing the booming economies of Venezuela and Mexico. The culture shock is not really a problem anymore because close to 90% of all industrial plants in Puerto Rico are run by managers who are natives. This means there really isn't a need to send your own vice-president down there.

The Virgin Islands is attempting to lure manufacturing companies with a package of tax incentives consisting of a 100% exemption on real-property and gross-receipts taxes along with a similar exemption from excise taxes on plant-construction expenses. There are also subsidies on federal and local income taxes. Perhaps the major attractions are relatively low labor and shipping costs. The low labor cost is gained from operating in a depressed economy like that of the Virgin Islands. And shipping costs less because the islands are exempt from the Jones Act and do not have to ship their goods to the mainland via expensive American-flagged shipping. The problems in doing business in the islands include high operating costs due to expensive land, utilities, and other such factors. You also have to have a large inventory, since it takes a while to have items shipped from the mainland.